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Namibia Pilot Study of Teacher Professional Development

Quality in Education, Teaching, and Learning: Perceptions and Practice

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EQUIP1 NAMIBIA PILOT STUDY OF TEACHER PROFESSIONAL DEVELOPMENT

QUALITY IN EDUCATION, TEACHING, AND LEARNING: PERCEPTIONS AND PRACTICE

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EXECUTIVE SUMMARY

Namibia is implementing complex constructivist reforms in teaching and learning in primary education at the same time that its enrolments are expanding dramatically. The ambitious reform program, in the context of expansion and severely limited resources, has threatened the quality of the teaching and learning. The challenges faced by Namibia in its efforts to improve quality are similar to challenges facing many other developing countries at the present time. Recognizing that teacher quality is a central element of overall education quality, the Namibia Pilot Study of Teacher Professional Development addresses the issue of how teacher learning and improvement are best supported in this context.

The study is organized around three guiding questions. In order to establish how the present reform program in Namibia is understood at the school level, the study starts with the question of how teachers and other stakeholders perceive the vision of quality of education that guides Namibia's policies. It then goes on, through classroom observations, to link the perceptions of quality to teachers' classroom practice in an attempt to gauge how well visions of quality are translated into students' learning experiences. Lastly, the study investigates the impact of teacher development opportunities on teachers' practice, with a special focus on the influence of school- and cluster-based in-service professional develop programs.

The Namibia Pilot Study of Teacher Professional Development was funded through the USAID Educational Quality Improvement Program 1 (EQUIP1) Leader Award by the Academy for Educational Development (AED) in cooperation with the Namibian National Institute for Educational Development (NIED). This is a qualitative study based on interviews with and classroom observations of a core group of 40 experienced grade 4 teachers in 20 schools in the Oshana and Oshikoto Regions of northern Namibia. The study also draws on interviews with principals, parents, and students in the same 20 schools, half of which have participated in the School Improvement Program (SIP), part of the USAID-funded Basic Education Support II and 3 (BESII and BES3) programs.

Namibia has a three-year pre-service teacher education program, the Basic Education Teacher Diploma (BETD), often thought of as a model of excellence because of its solid constructivist theoretical base and extensive program of school-based studies. Despite a lengthy pre-service program, Namibia has very little continuous in-service professional development. The School Improvement Program of BESII and BES3 over the last six years has provided a pilot of a comprehensive school-based professional development program, parts of which are now adopted

as national policy. The SIP is an example of in-service teacher professional development that is working and which could be useful in other countries seeking solutions to similar challenges.

The results of the study suggest that teachers, principals, parents, and students have varied concepts of quality of education, although the responses fell into a narrow range, often paraphrasing Namibia's education policies. There was little evidence that the vision of quality that guides education policy – learner-centered education (LCE) – is deeply understood. Classroom observations also suggested that teachers lack the ability to implement the most important elements of learner-centered education (e.g. conceptual learning, the use of higher-order thinking, cooperative learning), although they use some of its forms (e.g. group work). Teachers strongly claimed that ongoing, continuing, school- or cluster-based professional development such as that provided in the SIP program is more effective than the more episodic or cascade models usually available to them. The whole-school process of SIP, including the school self-assessment process of planning and evaluation carried out with the community, emerged from the study as a key element in encouraging the growth of teacher quality.

Because of the small size of the sample, the results of this study are neither statistically significant nor a valid basis for generalization, as is the case with most qualitative studies, but the results do suggest significant trends. Even in this small sample, differences between the SIP and non-SIP teachers and schools emerged. SIP teachers described quality in greater depth than the non-SIP teachers, for example, referring more often to process rather than solely to inputs and outputs. The SIP teachers also spoke with greater depth, breadth, and inclusiveness about professional development. Classroom observations were only slightly favorable towards SIP teachers in the practice of learner-centered education.

The results of the study suggest four important areas that may help improve teacher and system-wide quality: (i) clarify policies and ensure alignment of the various aspects of the system that guide teachers' work so that they are not working within a nexus of contradiction about policy and expected practice; (ii) within better aligned guidelines for policy and practice, develop consistent and comprehensive strategies for continuing teacher development that ensure support and the infusion of new knowledge throughout the system in combination with whole-school groups of stakeholders working on planning, reflection, and assessment of quality initiatives; (iii) focus on the school level and local voices to understand what quality is and where it comes from; and (iv) incorporate the complexity of process in the development of policies and programs.

CHAPTER 1: INTRODUCTION

Focus of the Study

Developing countries are seeking ways to improve the quality of basic education in an era when rapidly increasing enrolments and continuing resource constraints often lead to stagnating or declining quality. Quality of basic education, broadly taken to mean good student learning as defined by an education system's policies, is the result of a complex interaction of factors, the most important of which is increasingly recognized to be good quality of teachers and teaching. Teacher quality itself is the result of a complex process that is presently the intense interest of policy makers and program designers (ADEA 2004; ADEA 2005; Boyle et al. 2003; Craig et al. 1998; UNESCO 2004; UNESCO 2006).

The Namibia Pilot Study of Teacher Professional Development addresses the question of the quality of teaching, learning, and education as perceived by a sample group of teachers, students, pupils, parents, and school principals. It is a qualitative study seeking ways to improve teacher quality and teacher learning. The results lead to suggestions for policy and program approaches to improving the quality of teaching in countries with policy and resource constraints similar to those in Namibia.[1]

This study was designed to understand how a group of Namibian teachers, principals, parents, and students think about education quality through an investigation of how perceptions about quality relate to teaching. The study also describes how teachers change and improve as a result of their learning experiences, focusing on the influence of in-service professional development programs. The following questions frame the study:

- How do teachers, principals, parents, and students define and think about the quality of education, teaching, and learning?
- What is the relationship between teachers' ideas of quality and their teaching?
- What elements of teacher development, especially continuous school-based inservice-teacher professional development programs, have the greatest influence on teacher learning and the improvement of teacher quality?

Study Approach

The research for this study was carried out under the USAID-funded Educational Quality Improvement Program 1 (EQUIP1) Leader Award by the Academy for Educational Development (AED) in cooperation with the Namibian National Institute for Educational Development (NIED) which is responsible for curriculum development, teacher pre-service and in-service programs, and research.

The data were gathered from interviews with a core group of 40 grade 4 teachers in 20 rural schools in Oshana and Oshikoto Regions of northern Namibia and with the school principals, parents, and students in each of the 20 schools. The core teachers were also observed in their classrooms. The 20 schools include 10 that participate in the School Improvement Program (SIP) which is part of the USAID-funded Basic Education Support Programs II and 3 (BESII and BES3). The other 10 schools had participated only in the more episodic professional development provided by the regions and other donors. The small sample size means that the results are

[1] A longer version of this study is available through USAID/EQUIP1.

neither representative nor statistically significant, as is the case with most qualitative studies. However, by gathering in-depth information from stakeholders, the study suggests significant trends and sheds light on potentially promising areas of intervention. See Appendix 1 for details of the study methodology.

Organization of the Paper

This paper is organized as follows. Chapter 1 introduces the study. Chapter 2 provides the background and policy context of Namibian education and reviews teacher learning opportunities. Chapter 3 summarizes the international literature on the quality of education and teacher learning. Chapter 4 presents research findings on perceptions among the teachers, principals, parents, and students of the quality of education, teaching, and learning. Chapter 5 presents the findings of classroom observations which examined the relationship between teachers' perceptions of quality and their teaching. Chapter 6 presents research findings on the influence of different learning opportunities for teachers, focusing on in-service school-based professional development. Chapter 7 presents the conclusions and implications of the study.

CHAPTER 2: NAMIBIA'S POLICY AND PROGRAM ENVIRONMENT

Policy Background

The South West Africa People's Organization (SWAPO) that led Namibia to independence in 1990 made a priority of changing the apartheid education policies and practices of the colonial era, inaugurating several innovative programs while still in exile in the mid-1980s. A seminal program of that time, the Integrated Teacher Professional Development Programme (ITTP), introduced a new teacher preparation program based on principles of social constructivism; critical and transformative pedagogy; learner-centered and democratic education; conceptual learning; integration of knowledge and reflective practice, laying the foundation for future policies (Dahlstrom 1991, p. 7).

After independence, the SWAPO-led government introduced a process of social transformation to change the entrenched and dramatic inequalities of apartheid. In the new Namibia, education has played a key role in this transformation, explicitly promoting equity, quality, and democratic participation through constructivist and learner-centered policies and rejecting the positivist, behaviorist, rote learning, and teacher-centered policies of the past (Swarts in Van Graan *et al.* 2005, p. 19). In addition to these reforms, access to education has grown rapidly since independence, with nearly 90% enrolment rates in primary education in the previously underserved northern areas of Namibia.

The sweeping changes being sought by the new government required equally sweeping changes in the content and processes of teaching and learning and, thus, in teacher education. A new pre-service teacher education program, the Basic Education Teacher Diploma (BETD), was designed as the cornerstone of the new education policies. As its predecessor, the ITTP, the BETD was based explicitly on the principles of critical pedagogy; reflective practice; teacher as researcher; and deep conceptual and situational understanding, with teachers envisioned as change agents within society (Angula and Lewis 1997; Dahlstrom 1995, p. 281; NIED 2003; Pomuti in Van Graan et al. 2005, p. 65).

Despite a strongly theorized new education paradigm that is well aligned with government policies, Namibian teachers, like teachers in many countries that have adopted reform policies based on constructivism (active-learning, student-centered, critical-thinking approaches), have found it increasingly difficult to interpret and practice the new education policies, especially in the context of extreme overcrowding and severely limited resources (NIED 2003). The Namibian education system has come under intense scrutiny in recent years and the BETD, as the cornerstone of change, has been criticized as falling short of its ideals (NIED 2003). Questions about the learning achievement of Namibian students, reflected by SAQMEC assessments ranking Namibia at the bottom of a group of southern African countries, have highlighted growing challenges (UNESCO 1998). A World Bank sector review, while acknowledging the strengths of the Namibian education system, has also been critical of its approaches and recent achievements (World Bank 2005). Concerned with declining quality, the government has outlined a new reform program, *The Strategic Plan for the Education and Training Sector Improvement (ETSIP) Programme* (GRN 2005), which appears to shift Namibia towards more standards-based and behaviorist approaches while maintaining the constructivist principles of the past.

Learning Opportunities for Namibian Teachers

Through the BETD, teachers can earn a diploma through a three-year residential program offered at the four colleges of education or through a distance in-service upgrading program. The BETD program focuses on consolidating teachers' knowledge of a discipline and on the theoretical and practical aspects of teaching. Subject areas and pedagogy, in principal, are integrated in the program, not taught separately. The BETD is lengthy, is based on the same constructivist and active learning principles that guide education policy in general, and includes extensive practical experience in the schools. Despite these promising features, the program is presently being revised because of increasing concerns that BETD teachers gain neither the subject knowledge nor the teaching skills needed to promote good student learning (NIED 2003).

Only about half of all present Namibian lower primary teachers have earned the pre-service diploma. This makes in-service professional development critically important, although Namibian teachers receive relatively little in-service professional development. In-service programs are now primarily the responsibility of the regions, but consistent policies, programs, and budgets to support in-service do not exist. As a result, most teachers in Namibia participate in only occasional professional development workshops and school visits from Advisory Teachers and Circuit Inspectors. International donors have funded a variety of in-service programs, but few have had a lasting impact on the system. The most promising program building quality at the school level and supporting teacher learning has been the School Improvement Program which is part of the USAID-funded BESII and BES3.

The BESII and BES3 Programs

USAID has supported the Namibian government's policies to improve the quality of primary education since 1995 in the most disadvantaged northern regions through three BES Programs. The BESI Program (1995-2000) focused on curriculum development and teacher support, providing structured instructional materials on the use of active learning and continuous assessment. BESII (2000-2004) developed the comprehensive School Improvement Program (SIP) that works in schools and school clusters on school planning and assessment; strengthening decentralized school management; providing ongoing teacher professional development; and promoting community involvement in the life of schools. Initiated as a pilot, SIP has now expanded to all 770 schools in the six northern regions of Caprivi, Kavongo, Oshikoto, Oshana, Omusati, and Ohangwena.

The SIP includes a School Self Assessment (SSA) component designed to bring teachers, parents, and principals into a reflective process of identifying school goals, working together to create school improvement according to these goals, and assessing change. The school self-assessment process which leads to the development, implementation, and assessment of school development plans, has been so successful that it has become a national standard for all schools. The SIP includes support for teacher learning within the context of a whole-school improvement process (LeCzel and Liman, 2003; USAID/EQUIP1 2004a; USAID/EQUIP2 2006.

CHAPTER 3: THE LITERATURE ON QUALITY OF EDUCATION AND TEACHER LEARNING

The literature on the quality of education and the literature on teacher learning, briefly summarized below, sets the study as well as Namibia's policies and programs in a wider context.[2]

Literature on the Quality of Education

A vast literature on the quality of education has appeared during the last few decades, examining the factors that help improve education and proposing ways to promote better teaching and learning in schools. Quality has become a particular issue in developing countries as rapidly expanding enrolments in response to Education for All (EFA) goals, combined with continuing resource constraints, have led to concerns about declining quality. While "quality" figures prominently in education discourse of all countries, and there is concurrence about some ingredients of quality, interpretations of quality and approaches to achieving it vary.

The 2005 EFA Global Monitoring Report, *Education for All: The Quality Imperative*, points out that "agreement about the objectives and aims of education will frame any discussion of quality and….such agreement embodies moral, political and epistemological issues that are frequently invisible or ignored" (UNESCO 2004, p. 37). The report emphasizes that different notions of quality are associated with different education traditions. Most countries tend to mix the following approaches in their visions of quality, with one approach or another dominating as policy evolves:

- The humanist approach focuses on learners who construct their own meanings and integrate theory and practice as a basis for social action. Quality is defined by the extent to which learners translate learning into social action.
- The behaviorist approach assumes that students must be led and their behavior controlled to specific ends; quality is measured by incremental learning.
- Critical approaches focus on inequality in access to and outcomes of education and on education's role in legitimizing and reproducing existing social structures. Quality education is seen as prompting social change, encouraging critical analysis of social power relations, and ensuring that learners participate actively in the design of their learning experience.
- Indigenous approaches to quality reject mainstream education imported from the centers of power, assure relevance to local content, and include the knowledge of the whole community (UNESCO 2004, pp. 32–35).

Namibia's policies presently appear to be undergoing an evolution that combines the humanist and critical approaches of the post-independence era with a more behaviorist interpretation of quality. Similar shifts can be seen in many countries. Whatever the broad vision of quality, most national definitions include two elements: 1) cognitive development is an explicit objective of virtually every education system, despite wide disagreement on what it is and how to measure it; and 2) students' social, creative, and emotional development, usually included as a key element of quality, is rarely evaluated or measured (UNESCO 2004, p. 29).

[2] The literature review is an abbreviated version of a longer literature review of quality of education and teacher learning available through USAID/EQUIP1.

In recent years, the relative failure of more centralized authority to produce quality education, growing recognition of the weak link between policy and practice, the advent of more active forms of student and teacher learning, and the importance of local empowerment have combined to shift the focus of quality to more decentralized locations. Schools, teachers, and communities, working together, are now recognized as the real engines of quality (Farrell 2002, pp. 251-252). While this seems obvious, policy makers and program implementers have only recently begun looking seriously beyond input and output models of what constitutes quality, now seeking to understand more about complex processes at the local level and the "daily school experience" as the basic ingredients of quality (Anderson 2002; LeCzel and Liman 2003; Leu 2005; Nielsen and Cummings 1997; Prouty and Tegegn 2000; Tatto 1997; Tatto 2000; USAID/EQUIP1 2004a; USAID/EQUIP2 2006; UNESCO 2004; UNESCO 2006; Verspoor 2006).

With many factors influencing education quality at the school level, teachers are now recognized as the critical factor. Teacher quality, teacher learning, and teacher improvement, therefore, are becoming the intense focus of researchers, policy makers, program designers, implementers, and evaluators (ADEA 2004; ADEA 2005; Anderson 2002; Boyle et al. 2003; Craig et al. 1998; Leu *et al.* 2005; Lewin and Stuart 2003; UNESCO 2004; UNESCO 2006; UNICEF 2000; USAID 2002; USAID/EQUIP1 2004a; USAID/EQUIP2 2006; Verspoor 2006). The 2005 EFA report reflects the trend of focusing on teachers as the lynchpin of education quality:

> What goes on in the classroom, and the impact of the teacher and teaching, has been identified in numerous studies as the crucial variable for improving learning outcomes. The way teachers teach is of critical concern in any reform designed to improve quality. (UNESCO 2004, p. 152)

The literature indicates that a positive and clear policy environment and adequate support for growth are essential for creating and sustaining teacher quality (Fredriksson 2004; Mulkeen *et al*. 2005). Ongoing, relevant professional development activities are also necessary for continuing teacher learning and effectiveness (Craig *et al.* 1998, p. 13; Darling-Hammond and Bransford 2005; du Plessis *et al.* 2002; Fenstermacher and Richardson 2000; Hopkins 2001; UNESCO 2004; USAID/EQUIP1 2004b; USAID/EQUIP1 2004c; USAID/EQUIP2 2006). This point is expanded in the following part of the review.

Literature on Teacher Professional Development

The literature on education quality indicates a strong link between teacher professional development and quality. New constructivist and active-learning paradigms of teaching and learning cannot be understood or practiced effectively by imposing codified knowledge, prescriptive practice, and inflexible rules of conduct on teachers. Teachers must develop active ownership of their practice and of the reforms that guide changes in that practice:

> Unless teachers are actively involved in policy formulation, and feel a sense of 'ownership' of reform, it is unlikely that substantial changes will be successfully implemented…One of the main challenges for policy makers facing the demands of a knowledge society is how to sustain teacher quality and ensure all teachers continue to engage in effective modes of ongoing professional learning. (Santiago and McKenzie 2006, p. 9)

International and US-based scholars and specialists on teacher learning have long supported the view that successful school reform is best achieved by helping teachers and schools become inquiring collaborative organizations rather than by prescribing practice from above (Anderson 2002; Craig *et al.* 1998; Darling-Hammond 1993; Lieberman and Miller 1990). Collaboration and inquiry make teachers and schools engaged subjects, rather than the objects of policy reform (Lieberman and Miller, 1990). Studies support the view that continuous teacher development is a key to raising learner achievement. In the process of improving quality, the entire school community needs to be engaged as a network of support.

A 2002 study of teacher education reform projects in East Africa outlines factors that contribute to effective teacher professional development (Anderson 2002). The study maintains that the most successful in-service learning takes place occurs teachers have access to teacher-centered and school-based workshops; in-class coaching by consultants, supervisors, or peers; team planning and problem-solving by collegial work groups; action research; teacher inter-visitation; and professional study groups. The literature on teacher development in US schools supports the international studies. For example, Little found that norms of collegiality and experimentation in schools were most responsible for developing teacher leaders and for fostering teacher professionalism (Little 1988). Teachers' ability to develop and improve throughout their careers may depend largely on creating collaborative organizations, or "communities of practice" in which teachers work together and develop shared membership in a group that supports continuous inquiry into practice (Darling-Hammond 2006; Grossman et al. 2001; Hatch 2006).

In their professional development, teachers need to acquire the capacity to consider, implement, and make room for changes. The combined processes of efficiency and innovation are assumed to be "complementary at a global level, and they are complementary when appropriate levels of efficiency make room for innovation" (Darling-Hammond and Bransford, 2005, p. 362). In other words, teachers need to develop practices that provide the flexibility for experimentation and innovation in the classroom so that they can become, in Darling-Hammond's words, "adaptive experts." Darling-Hammond suggests the following professional development strategies for teacher learning:

- Experiential, engaging teachers in concrete tasks of teaching, assessment, and observation;
- Grounded in participants' questions, inquiry, and experimentation;
- Collaborative, involving shared knowledge among educators;
- Connected to and derived from teachers' work and examination of subject matter and teaching methods;
- Sustained and intensive, supported by modeling, coaching, and problem solving around specific problems of practice; and
- Connected to other aspects of school change (1998, pp. 4-5).

Many of the ideas of education quality and teacher learning drawn from the international literature are evident in the programs and policies of Namibia. In particular, the ideas of teacher learning outlined above are explicit in the BETD pre-service as well as in the SIP in-service professional development program.

CHAPTER 4: PERCEPTIONS OF QUALITY EDUCATION – RESEARCH FINDINGS

This chapter responds to the first research question and describes how teachers, principals, parents, and students think about and understand the quality of education, quality of teaching, and quality of learning. Since teachers are primarily responsible for implementing the constructivist, critical, and learner-centered visions of quality that, although shifting, still underlie Namibia's policies, understanding the way in which they and other stakeholders perceive quality of education should be a first step in explaining successes and challenges in the implementation of policies.

Stakeholder' Perceptions of Quality

Teachers' Perceptions of Quality

Teachers generally define quality of education as a means to achieve students' individual goals which include good results and performance leading to jobs and skills. Teachers also identify learning to meet national goals and local needs as important. Creating good citizens who are socially committed, responsible, disciplined, punctual, respectful, and listen well are all part of teachers' general perceptions of quality. Teachers emphasize that quality of education includes a positive relationship with the community as exhibited by cooperation among teachers, parents, and other schools. The availability of resources and of classroom teaching materials is also considered an important factor of quality.

Teachers describe quality teaching as having the required resources and preparing adequately. This includes thorough lesson planning and using teaching aids and other learning materials in the classroom. Teachers frequently discussed the importance of learner-centered education and students' active participation as part of quality teaching. Teachers consider continuous assessment important to gauge student learning and adjust teaching strategies so that all students are reached.

Principals' Perceptions of Quality

Principals and teachers generally agree in their perception of quality education with the exception that principals emphasize qualified, competent teachers. Qualified teachers are those who prepare lessons thoroughly, use learner-centered pedagogy, appropriate materials, and know the subject matter and the students. Prepared teachers use lesson plans and teaching aids, varied teaching methods and strategies, all of which creates an environment where learners feel comfortable asking questions and are motivated to participate. Principals considered a good teacher as one who is patient and loving.

Principals view quality of learning primarily in terms of academic achievement and performance that are related to life skills and acquiring jobs, mainly learning to read and write and passing subjects with good grades. Principals also focus on social behavior and consider that quality learners are punctual, responsible, listen well, and set examples to others. Principals also emphasize learners' participation, advocating that learners ask questions, share information with other learners, and be actively involved in all classroom activities. Principals believe that all stakeholders must be involved in the education system and that a good relationship between parents and the school is essential.

Parents' Perceptions of Quality

Parents relate quality education to good student performance, emphasizing reading and writing and passing with good grades. Parents, more than teachers and principals, stress that learning should lead to employment and serve career goals. Parents also stress the importance of good behavior, discipline, good manners, and respectful behavior. Like teachers and principals, they stress that sufficient resources - classrooms, teaching materials, textbooks, and qualified teachers - are fundamental. They also consider cooperation among parents, teachers, and learners critical to quality.

Parents tend to associate quality teaching with the degree to which teachers encourage parents to be involved by coming to the classroom to teach, tell stories, or talk to teachers. Parents see learner performance as essential to quality teaching and emphasize children's reading and writing skills, English ability, and good grades. They highlighted the importance of being informed about children's performance and progress. Good teaching, for parents, also includes regular homework and varying teaching strategies, like group work and taking learners outside of the class. Parents consider that quality learning is taking place when they see their children mentioning new topics or asking questions. Parents associate meeting teachers and checking homework as part of quality. Parents mentioned as important information children receive on HIV/AIDS. Sports, mathematics, science, and arts were mentioned as important topics. Above all, speaking and reading English was considered important.

Students' Perceptions of Quality

For learners, teachers are the most important feature of quality education. Teachers should be kind, friendly, and loving. They should tell jokes and demonstrate that they care for children. Students frequently said that they value teachers who do not beat them. Students also focus on outcomes, stressing the importance of teachers who explain well and are willing to explain difficult topics in the local language. They also consider reading, writing, math, art, and English as important topics and consider passing grades and jobs to be important.

Students' perceptions of quality teaching are virtually the same as their general perceptions of quality. They focus on teachers' kindness, patience, and not being beaten and learning to read and write. Teaching strategies are also important, and students preferred teachers who involve students, give them a chance to ask questions and participate in group activities. Several student groups mentioned the importance of learning to correct their own errors. Students believe that they are learning when they get good grades. They said that they learn when the teacher puts corrections on the board and they copy them.

The following table summarizes some of the points emphasized by the teachers, principals, parents, and students.

Table 1. Perceptions of Quality

Quality of	Teachers	Principals	Parents	Students
Education	*Outputs* Academic achievement that leads to jobs; responsibility to community; good behavior *Inputs* sufficient resources	*Outputs* academic achievement that leads to jobs; responsibility to community; good behavior *Inputs* sufficient resources; qualified, competent teachers	*Outputs* academic achievement for jobs, responsibility to community; good behavior *Inputs* sufficient resources; quality of teachers	*Outputs* achievement for jobs *Process* kindness of teachers; positive learning environment
Teaching	*Inputs* sufficient resources; lesson planning *Process* - LCE, assessment	*Inputs* sufficient resources; lesson planning *Process* - LCE, assessment; good environment	*Outputs* Good performance; student progress; good English acquisition *Process* – Parents' involvement in student learning	*Process* feeling comfortable in class; varied teaching strategies; classroom discussions
Learning	*Outputs* performance and results *Process* participatory learning	*Outputs* performance and results	*Outputs* Performance and results *Process* Participatory learning	*Outputs* Performance and results

Responses from Stakeholders at SIP and non-SIP Schools

A part of the study design was to capture the influence of participation in different in-service professional development programs, with a focus on how participation in the school-based SIP program changed perceptions of quality education, teaching, and learning quality among stakeholders at the 10 SIP and 10 non-SIP schools. The following highlights the differences in perceptions of quality among stakeholders at in the two groups of schools.

1. *Teachers* in SIP and non-SIP schools, at first glance, have remarkably similar views of quality although differences emerge in the way teachers describe "quality of teaching." Non-SIP teachers describe quality teaching in a more mechanical way, emphasizing lesson planning, general preparation, preparation of teaching aids, presentation of material, and availability of resources, with a heavy emphasis on inputs. SIP teachers refer to the same elements but refer more frequently to process, the relevance of teaching to what learners know, the use of relevant practical examples, teaching to different student abilities, and active, hands-on learning.

2. *Principals* from SIP and non-SIP schools talk about quality of education, teaching, and learning in very similar ways. Both groups of principals cite a fairly narrow range of attributes of quality similar to those identified by teachers: teacher qualifications and lesson preparation, availability of resources, and, in some cases, community participation. SIP principals mention learner-centered education slightly more frequently than non-SIP principals. The principal's role in shaping school quality varies, as SIP principals are more participatory in tone and example when they talk about their role and non-SIP principals are more directive.

3. *Parents* of children in SIP and non-SIP schools discussed quality of education in generally similar terms, with an emphasis on the academic achievement of students and the availability of resources. Several areas of difference appeared however. First, SIP parents emphasized

parental involvement more than the non-SIP parents, and thought that their children were receiving a good quality of education. By contrast, only two-thirds of the non-SIP parents thought that their children were receiving a good education. All SIP parents thought that teachers were doing a good job by contrast to only half of the non-SIP parents.

4. *Students* in SIP and non-SIP schools gave remarkably similar responses focusing on teacher kindness, the ability to explain well, speak English well, and use the local language. Both groups of students prefer teachers who do not beat them. SIP students talk about learning being fun and exciting slightly more often than non-SIP students.

Discussion of Perceptions of Quality

Limited Nature of Reflection on Quality

All stakeholders have ideas about what constitutes the quality of education but many responses suggested that little thought had been given to the quality of education that goes beyond the use of the familiar language of policy initiatives. This is noteworthy given the explicit role of theory in Namibia's education policies and the emphasis on reflective practice. Teachers and principals, when asked to elaborate, could add very little depth or explanation to terms such as "learner-centered education" or "learning to understand." Stakeholders also find it difficult to differentiate between general perspectives on quality, quality of teaching, and quality of learning. This suggests that discussions about quality in pre-service and in-service programs, schools and communities do not go very far, if they take place at all.

The Role of Process in Perceptions of Quality

Responses focus heavily on inputs and outputs - resources, qualified teachers and learners, good academic results, socially responsible behavior of students - and only superficially on classroom process factors. Stakeholders did not express the understanding that resources, qualified teachers, and receptive learners do not automatically result in quality of education and favorable systemic outcomes without meaningful processes in schools and classrooms. The fact that LCE is mainly about process did not come up in the responses, suggesting limited depth of understanding. This raises the question of whether teachers and principals are engaging in reflective dialogue and critical analysis of practice, the bedrock of educational theory, policy, and practice in Namibia.

SIP and non-SIP Similarities and Differences

The slight differences in tone and substance in the responses from SIP and non-SIP teachers suggest that SIP stakeholders are more collaborative and reflective and participate more in creating school quality. This may reflect the fact that the SIP schools and communities engaged in a self-assessment process that is a participatory reflection process.

CHAPTER 5: RELATIONSHIPS BETWEEN CONCEPTS OF QUALITY AND PRACTICE – RESEARCH FINDINGS

This chapter presents research findings on the second guiding question and explores how teachers' ideas of quality relate to and shape their teaching. Thirty-nine of the 40 core teachers were observed during one science, mathematics, or English class.[3] The results of the observations are presented below, organized around 10 themes that play an important role in Namibia's LCE policies: 1) physical classroom environment; 2) affective atmosphere; 3) use of resources; 4) involving learners; 5) cooperative learning; 6) use of higher-order thinking skills; 7) elicitation and effective questioning; 8) reinforcement and feedback; 9) contextualizing knowledge; and 10) written work. Teacher performance was rated positive, mixed, or negative on these items.[4]

Classroom Observation Findings

Four Areas of Success

Teachers received the highest overall ratings in the following four areas:

1. *Physical Classroom Environment* means a good use of space, attractive classrooms, good arrangement of desks, display of students' work, and other relevant visual material in the room. Here, 36% of the teachers used the physical classroom well, an additional 44% created an acceptable or mixed physical environment. A combined total of 80% of teachers rated positive or mixed.

2. *Affective Atmosphere* reflects positive interaction between teachers and students, a supportive, trusting, and non-threatening classroom environment: 54% of the teachers rated positive and 23% had mixed ratings. A total of 77% of teachers rated positive or mixed.

3. *Use of Resources* include textbooks, chalkboard, and other teaching and learning resources that are used effectively: 54% of the teachers used materials and resources well to support their lessons and 26% used resources in an acceptable or mixed way. A total of 80% of teachers were rated positive or mixed.

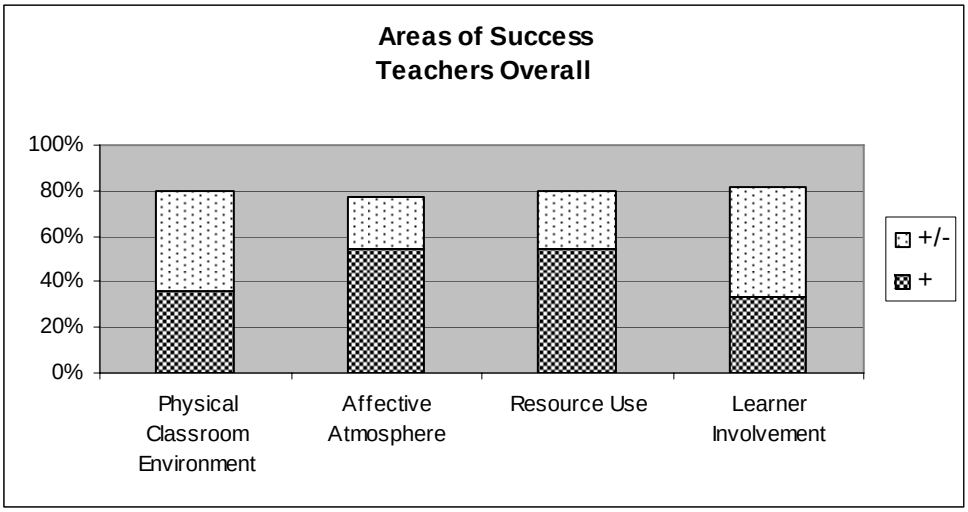
4. *Learner Involvement* includes teachers' ability to involve learners or keep them engaged in tasks: 33% of the core teachers received a positive rating and 49% were rated either acceptable or mixed. A combined rating of 82% was positive or mixed.

[3] Of the 40 teachers interviewed, one SIP teacher, could not be observed because of a scheduling problem.

[4] Appendices 2-5 provide detailed ratings for each class. Appendices 2 and 3 describe teacher performance in SIP and non-SIP schools in detail. Appendices 4 and 5 organize the same information according to whether teachers had been trained in the BETD in-service or pre-service program. Rating criteria and detailed findings are in Appendix 6.

The following table summarizes the areas of success:

Table 2. Successful Uses of LCE Approaches



Six Areas of Challenge

Teachers received lower ratings in the following six areas:

1. *Cooperative Learning (Pair and Group Work)* means pair or group work where learners are engaged in learning in a group to make meaning or solve problems together. In this category, teachers' ratings drop sharply. Only 10% of the core teachers received a positive rating; 16% were placed in the acceptable or mixed category for a total of 26% of the teachers engaged in cooperative learning in a positive or acceptable/mixed manner.

2. *Higher-order Thinking Skills* covers activities that require students to apply, analyze, synthesize, or evaluate information. Only 21% of the teachers were thought to use higher-order thinking skills positively while 44%, were rated as showing signs of attempting related practices, for a combined 65% of positive or mixed ratings.

3. *Elicitation and Questioning* reflects a teacher's skill in asking questions and reinforcing the answer by rephrasing, using various techniques to assure that students understand, and verifying that they understand. Only 13% of the teachers were rated as practicing elicitation and questioning effectively; 36% were thought to be trying with mixed success, for a total of 49% of the teachers using this practice in a positive or mixed/satisfactory manner.

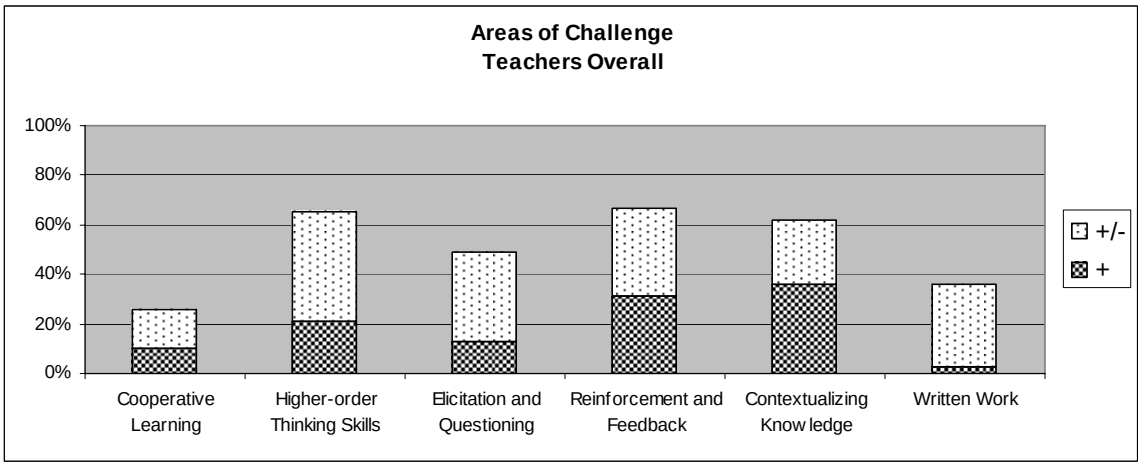
4. *Reinforcement and Feedback* relates to teachers' use of multiple and meaningful examples, reinforcing student learning and providing concrete and timely feedback that helps students learn. This was judged positively for 31% of the teachers and mixed for 36% of teachers, for a total of 67% of teachers rated in these two categories.

5. *Contextualizing Knowledge* reflects a teacher's ability to make lessons relevant by accessing prior knowledge or relating material to the students' world. Of the 39 teachers, 36% were rated positively while 26% used this strategy in an acceptable or mixed manner. A combined 62% of teachers were in the top or mixed category.

6. *Written Work* covers a student's own writing as opposed to fill-in-the-blank writing, single word, or copied written answers. Only 3% of the teachers received a positive rating and 33% were rated as mixed for a total of 36% in the two categories.

The following table summarizes the areas of challenge:

Table 3. Challenges for Teachers Using LCE



Findings on the Practice of SIP and non-SIP Teachers

In the successful areas, SIP and non-SIP teachers received overall nearly the same ratings, although SIP teachers were 10% more successful (positive plus mixed categories combined) in physical classroom environment and 4% more in learner involvement. The non-SIP teachers were rated overall 6% higher in affective atmosphere and 11% higher in resource use. The challenging areas had similar ratings and differences among categories. Non-SIP teachers received slightly higher ratings (positive plus mixed combined) on four items, while SIP teachers received higher combined ratings in two areas. However, SIP teachers had a substantially higher number of ratings in the positive category, 21% higher on reinforcement and feedback and 26% higher on contextualizing knowledge. These are small differences and the observation results reveal more about overall challenges in implementing policy than about the differences between SIP and non-SIP teachers.

Findings on the Practice of BETD Pre-service and BETD In-service Teachers

All teachers in the study had earned a BETD qualification (15 of the 39 teachers had earned the BETD through the pre-service program and 24 of the 39 through the in-service program). Pre-service teachers rated significantly higher overall in the observations, with 5 out of the 15 teachers receiving positive ratings in over half of the items, compared with only 3 of the 24 in-service teachers receiving positive ratings in over half of the items. The results suggest the relative strength of BETD pre-service teachers (see Appendices 4 and 5). The difference could be attributed to the quality of the two programs or to the age of the teachers: those with the BETD pre-service diploma are usually younger, have better English language skills, and have received their primary and secondary education as well as their teacher education entirely in the learner-centered policy context. The usually older BETD in-service teachers often speak English less well because they were educated in a system that emphasized Afrikaans. It is important to note

that a disproportionately larger number of SIP teachers received their BETD in the in-service program, which might have skewed the results in the sample in favor of the non-SIP teachers.

Discussion of the Link between Perceptions of Quality and Classroom Practice

Discussion of Areas of Success

The four areas of more successful practice are arguably practices that are less complex and require less profound understanding of learner-centered education than the latter six areas. The ratings overall are remarkably positive in the four areas of physical classroom environment (80% either positive or mixed); affective classroom atmosphere (77% either positive or mixed); resource use (80% either positive or mixed); and learner involvement (82% either positive or mixed). However, only two items received an overall positive rating of more than 50%: affective atmosphere (54% positive) and resource use (54% positive). Learner involvement also achieved a very high overall rating (82%), but only a 33% positive rating. The fact that so many of the positive results in these four areas were bolstered by acceptable/mixed results suggests that many teachers are attempting new practice, but not yet skilled at teaching differently.

Discussion of Areas of Challenge

The 39 core teachers were less successful in the six areas that relate to more profound aspects of constructivism and learner-centered education: cooperative learning (pair and group work); the use of higher-order thinking skills; elicitation and questioning; reinforcement and feedback; contextualizing knowledge; and written work. The observers were looking specifically for teaching strategies, learning content, and learning activities that encouraged conceptual and meaningful learning, the development of higher-order and critical-thinking skills, and successful independent production of knowledge and communication. Success in all of these areas requires a good grasp of the substance, not just the form, of active learning.

In these six areas of challenge, the 39 core teachers received a low level of positive ratings: 36% in contextualizing knowledge, 31% in reinforcement and feedback, 21% in higher order thinking skills, 13% in elicitation and questioning, 10% in cooperative learning - pair and group work, and only 3% in written work. The results look better when the positive rating is combined with the acceptable/mixed rating, suggesting teachers are starting to make progress, albeit with mixed success. In three categories, the combined rating was over 60%: reinforcement and feedback (67%), use of higher-order thinking skills (65%), and contextualizing knowledge (62%). Elicitation and questioning were somewhat successful among 49% of the teachers and written work jumps from just 3% to 36% when combined with the mixed-success ratings. The lowest positive rating and next-to-lowest combined rating is in the category of cooperative learning - pair and group work – a 10% positive rating and 26% combined positive and mixed success rating. This is particularly significant because pair and group work is the most frequently used teaching strategy in Namibia and in other countries related to constructivist and learner-centered approaches.

Concepts-in-Use: The Link between Concepts of Quality and Practice

Teacher interviews concerning learner-centered education suggested relatively little reflection on and deep understanding of learner-centered or constructivist approaches beyond a limited range of terms and techniques. Classroom observations also suggest that the teachers observed generally lack understanding of LCE: the teaching and learning strategies were limited and rarely encouraged the development of conceptual learning or higher-order thinking skills which are at

the base of constructivist and learner-centered education. Teaching practice observed contained a relatively limited repertoire of teaching strategies. In addition to insufficient understanding, this may also reflect a lack of confidence to practice new ideas, lack of support within the schools for the practice of new ideas, or lack of sufficient resources to back up changing practice.

Cooperative Learning in Pairs and Groups

Cooperative learning, usually practiced through pair or group work, is the most common - often the only - teaching strategy associated with learner-centered education and active learning. Unfortunately, group work often amounts to re-arranging classroom furniture while teacher-centered instruction persists. Many teachers, parents, principals, and learners in this study suggest that learning in groups and pairs contributes to quality of education, teaching, and learning. Much classroom group and pair work was observed, but there were few examples of real cooperative learning in the conceptual sense. The work assigned in groups and the dynamics required to accomplish the work often had little to do with cooperative learning so there was no reason to do the work in a group. The group work was often very quiet, a leader typically had a pen or pencil and seemed to decide correct answers, based on notes given by the teacher. This is an example of a missed opportunity for learners to mobilize their language as well as their thinking skills.

CHAPTER 6: THE INFLUENCE OF TEACHER PROFESSIONAL DEVELOPMENT ON TEACHING PRACTICES – RESEARCH FINDINGS

This chapter describes the research findings on the third guiding question which asks teachers and other stakeholders about programs with the most influence on learning and improving practice, with a focus on in-service professional development. The findings here are important in relation to the results outlined in the previous two chapters which suggested that teachers had a limited understanding of LCE and were more successful using the form rather than the conceptual substance of LCE in their practice.

Influence of the BETD Program

Teachers and other stakeholders described the positive influence of the BETD pre-service teacher diploma program and their perceptions of how the program influences quality of education. All of the teachers in this study had completed the BETD, although 25of the 40 teachers had completed the in-service program (more SIP than non-SIP teachers were in this category) whereas 15 of the 40 teachers had completed the pre-service BETD program. As reported in the previous chapter, classroom observations showed relatively minor differences between SIP and non-SIP teachers, but a distinct difference between BETD pre-service and in-service teachers, with the BETD pre-service teachers receiving significantly higher ratings than the in-service teachers.

The following findings emerged from interviews with teachers about the influence of the BETD:

- Teachers highly value the BETD as a professional qualification. Teachers most frequently named LCE as the most important way in which the BETD had shaped their practice.
- The important LCE aspects that they claim to practice include teachers assisting learners; teachers acting as facilitators and co-learners rather than as the source of all knowledge; learners involved in their own learning; learner interaction; integrated learning; continuous assessment; and respectful and democratic classroom environments.
- Teachers frequently mentioned the importance of involvement and communication with parents as emphasized in the BETD.

The results discussed in Chapter 6 suggest that these teachers were more successful in describing than in implementing LCE. In addition, several things were conspicuous by their absence in the responses, especially given their prominence of theory and practical work in schools in the BETD: 1) reflection was not a strong theme; 2) there is very little reference to school-based studies; 3) there is very little reference to conceptual learning, meaningful learning, learning for understanding as important in LCE; 4) there is no explanation of how theory informs practice despite references to the Education Theory and Practice course; and 5) there is only brief mention of the limited amount of subject content in the BETD, a frequent critique of the program.

Influence of In-service Teacher Professional Development Programs

Teachers, principals, and parents were asked to describe the influence of in-service professional development programs in their schools. Half of the schools participate in the SIP in which teacher professional development is school-based and embedded within a school-wide process of planning, reflection, and assessment. The non-SIP schools participate in the more episodic and centralized forms of professional development.

Teachers' Perspectives on In-service Professional Development

1. *Available in-service professional development opportunities:* All 20 SIP teachers said that they had participated in professional development activities organized by SIP and enumerated an extensive list of workshop topics.[5] Teachers also mentioned attending SIP teacher-principal conferences and participating in circuit support team activities. The 20 non-SIP teachers attend fewer in-service cluster or circuit workshops; workshop subjects are more limited and random.[6]

2. *Influence of in-service professional development on practice:* The SIP teachers described many ways in which their participation in SIP activities has influenced their practice. About half of the answers referred directly to how well they understood and used LCE. Some SIP teachers referred to self-evaluation or reflection as a way to improve practice. Others described better understanding and use of specific teaching strategies.[7] SIP teachers also referred to the positive effects on their teaching of parents' involvement; working in a school team; working together on the projects funded by small grants under SIP; and the benefits of "initiatives from within." All non-SIP teachers describe the influence of the workshops on teaching, often in general terms: "improves my knowledge because I gain skills and use them in the classroom;" "learner-centered approach, being a facilitator not a teacher;" or "it motivates me and the learners to get new ideas." Most teachers focus on specific new teaching strategies that they apply in their classes.[8] Some non-SIP teachers said that they learned everything about teaching from BETD, suggesting limited subsequent learning.

3. *Support needed to improve the quality of teaching:* SIP teachers overwhelmingly identified additional professional development opportunities and said that more SIP activities would be the most helpful form of support for becoming a better teacher. The important workshops they named were in English, mathematics, and environmental studies. SIP teachers also mentioned the value of visits of Advisory Teachers and Resource Teachers, other outside support, more peer collaboration, and additional community involvement in the school. They mentioned but did not stress the need for additional resources (books and photocopiers, especially). Non-SIP teachers also identified professional development as the most needed form of support, emphasizing the importance of regular and school-based workshops. Several non-SIP teachers asked for more support from Advisory Teachers. One said that English should be emphasized more in rural schools, just as it is in town schools. Several mentioned the need for better relationships with the community and the need for additional resources (by order of frequency: books, teacher accommodation, and additional salary).

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[5] LCE; continuous assessment; mathematics and English; teaching students with learning disabilities; the use of games and other activities in teaching; making and using teaching aids; lesson planning; teaching themes across the curriculum; and self-evaluation to improve practice.

[6] On mathematics, assessment, and preparing teaching aids, and one on challenges that face lower primary teachers.

[7] The use of teaching aids and games; use of visual aids in explaining material; integration across subjects such as mathematics and environmental studies; lesson preparation; and identifying and supporting students at risk or those living in difficult circumstances.

[8] Using activities and visuals in teaching multiplication; using group work; displaying the classroom with learners' work and teaching aids; and having learners write their own stories.

Principals' Perspectives on In-service Professional Development

1. *Programs with the greatest impact on improving the quality of education the region:* All 10 SIP principals identified SIP or BESII/BES3 as having had the greatest impact on improving quality in the region. Principals cited the clustering system for teachers and principals, the resources available through small grants, and the good relationships established between parents and teachers. Molteno was the other most frequently mentioned program.[9] Five of the 10 non-SIP principals also named SIP or BESII/BES3 as having had the greatest impact; three principals named Molteno; others could not think of a program that had an impact. One principal indicated that projects were ineffective because they were not given enough time to take root, the school was not well enough equipped, and no time was given for reflection. Another principal said that SIP should be expanded region-wide because it involves community knowledge in teacher and school improvement, but he cautioned that SIP presently had too few facilitators to reach all schools.

2. *Professional development impact on teaching and learning:* SIP principals were overwhelmingly positive about SIP, giving similar responses focusing on new forms of collective decision-making; school planning and assessment; community involvement in the school; parental involvement in the classroom; and improved teaching using LCE; using more teaching aids; more "joyful" learning with songs and plays; more sharing of ideas among learners; better involvement of parents in their children's learning; and more cooperation among teachers. The non-SIP principals' responses were predictably more limited as they had participated in fewer programs. Some described trying to involve parents in schools, others mentioned Molteno.

3. *Sustainability of professional development programs:* All SIP principals said that the program was sustainable because they were, in the words of one principal "equipped with knowledge and skills which will enable us to continue and sustain the changes, even when the program has come to an end." The non-SIP principals were generally less optimistic about the sustainability of the programs available to them; a few raised the issue of funds, an issue which the SIP principals did not mention. One said that "the school is able to sustain the use of group work, but other things like the proposed project at the school will not be sustained because there is no money."

Parents' Perspectives on In-service Professional Development

1. *Knowledge of professional development programs:* Nine of the 10 groups of SIP parents mentioned SIP or BESII/BES3 by name; the other group described SIP without naming it. SIP parents were very knowledgeable about the effect of the program on school management, teaching, and their children's learning. They described a positive effect of their participation in the School Development Plan, and described the value of defining vision and mission statements for the school. They said that SIP had empowered parents to participate fully in their children's education. The non-SIP parents had little to say about professional development programs at their schools. Two groups mentioned SIP because they had heard of it in other schools.

[9] Molteno, a program that builds English skills, was used as part of the Namibia Early Literacy and Language Project (NELLP) funded by DfID.

2. *Involvement in decision-making and learning:* All 10 groups of SIP parents said that they were involved in school decision-making, giving many examples of what they do and why it is important. One group of non-SIP parents thought they were uninvolved in making decisions at the school, three groups described involvement as "being called to meetings," and the other six groups described limited involvement.

The table summarizes the responses of SIP and non-SIP teachers, principals, and parents:

Table 4. Parents' Perspectives on In-service Professional Development

	Teachers
SIP	▪ Frequent participation in workshops covering a variety of topics ▪ Teacher-principal conferences ▪ Improved LCE, self-evaluation and specific teaching strategies ▪ Involvement of parents ▪ Need for additional professional development opportunities
Non-SIP	▪ Infrequent participation in cluster workshops that cover few topics ▪ Improved specific teaching strategies but limited learning beyond BETD ▪ Need for additional regular school-based professional development opportunities

	Parents
SIP	▪ SIP greatest impact on improving quality ▪ Advanced new forms of collective decision-making, community involvement, and improved teacher implementation of LCE.
Non-SIP	▪ Acknowledge benefits of SIP but questioned program sustainability.

	Principals
SIP	▪ Improved school management, student learning, and teachers skills. ▪ Parental involvement in school decision-making
Non-SIP	▪ Little to no involvement in school decision-making

Discussion of the Influence of Teacher Learning on Practice

Influence of Pre-service Teacher Education

All 40 teachers interviewed and 39 teachers observed in this study had completed the BETD, most in the in-service program. The 40 core teachers strongly supported its value whether as a pre-service or in-service program, claiming that it had strongly influenced their LCE practice. Interviews and classroom observations, however, indicated that LCE was narrowly defined and practiced more in form than in conceptual substance.

Influence of In-service Teacher Professional Development

Stakeholders at all of the SIP schools reported a strong impact of the in-service program, often mentioning the whole-school nature of SIP activities that includes teachers, principals, and parents in planning and reflection. Most non-SIP teachers reported the positive influence of workshops on their teaching and requested additional professional development opportunities, particularly in their schools. Teachers, principals, and parents all clearly indicate a high demand for programs like the SIP although none of the professional development programs appear to have left teachers with a deep understanding of Namibia's policies or the practice of LCE.

CHAPTER 7: CONCLUSIONS AND IMPLICATIONS

The very high demand and enthusiasm for a program like the SIP, as reviewed in the last chapter, raises the question of why this program, combined with the extensive BETD pre-service program, has not produced better results, at least as suggested in the small and unrepresentative sample of this study.[10] The study may not be representative or conclusive, but it does highlight problems in the present system and suggest possible solutions. Three sets of issues related to quality drawn from the results of the study are: 1) quality and the consistency of policy and practice; 2) quality and teacher development; and 3) quality, process, and local-level empowerment.

Quality and Consistency of Policy and Practice

There is evidence in the study of a weak link between policy and practice; the concepts that guide policy and the use of these concepts; a narrow understanding of policies designed to promote quality. There are clear difficulties among teachers and other stakeholders in understanding and implementing policies based on constructivism, critical pedagogy, democratic approaches to teaching and learning, learner-centered education, and conceptual learning. These issues lead to several question of critical importance to all policy makers and program designers.

One question concerns system alignment. In order for teachers to practice successfully, policies must be clear and approaches consistent. A document published in 2003 by NIED, cited frequently in the study, identifies theoretical and practical inconsistency underlying different parts of the system that guide teachers' work. For example, the primary curriculum, subject syllabi, textbooks, the content of the BETD, and the examinations all display different interpretations of LCE, sending very confusing signals to teachers (NIED 2003, p. 21). Namibian teachers, therefore, are implementing a conceptually complicated reform at the time of rapid system expansion, and appear to practice at a nexus of policy and practice confusion. This may be a source of some of the challenges in the understanding and practice of LCE identified in the study. To improve teaching practices and to make teaching more learner-centered, the basic approaches must be clear and used consistently. This is a point on inquiry and correction that requires critical attention in Namibia and in all countries implementing similar reforms.

A related question on the relationship between policy and practice concerns the evolution of the learner-centered education within Namibia and recent trends that may attempt to blend constructivism with a more behaviorist, standards, and measurement-based approach. The possible retrenchment from constructivism that this represents is not unusual and many countries are presently undergoing similar policy evolution. Changes in policies that define quality present the potential for additional system misalignment while, at the same time, offering the opportunity for thoughtful establishment of consistency among different aspects of the system.

Quality and Teacher Development

Pre-service teacher education is always an important starting-point for quality. Namibia's BETD pre-service program is lengthy and well resourced compared with in-service, although it may also be one of the roots of the challenges seen in this study. While LCE is the foundation of the BETD, critics claim that LCE is more often talked about than practiced within the preservice

[10] This might be skewed by demographic factors and the fact that a higher percentage of the SIP teachers were BETD in-service graduates who received, overall, substantially lower ratings than the BETD pre-service teachers.

program (NIED 2003). Teachers cannot be prepared to use constructivist approaches effectively through a mainly positivist pre-service program that includes neither deep conceptual learning and modeling of good LCE practice on the part of teacher educators. This is a common problem in countries implementing LCE reforms.

Even the most excellent pre-service teacher education program cannot stand alone in providing the mentoring, learning, and support that teachers need throughout their careers, nor can it introduce reforms to the majority of teachers who are already practicing in the system. Namibia, however, as many countries, does not have a strong and comprehensive in-service professional development program, a factor that contributes to teachers' uncertain grasp of learner-centered education. The literature emphasized the trends of effective teacher learning in many countries that engage teachers in their own learning; are grounded in reflection and experimentation; are collaborative; sustained, and connected to other aspects of school change. The SIP program shares many of these features and provides a promising model for introducing and sustaining quality improvement.

The results of this study suggest that teachers and others at SIP schools are somewhat better able to discuss quality and the goals of LCE than those in non-SIP schools and that they are highly enthusiastic about LCE and role of SIP in improving quality. The SIP teachers observed in this study, however, were not significantly better than the non-SIP teachers. Although this probably reflects the demographics of the SIP schools and teachers in the sample, it may also suggest the need for a strengthening of the teacher professional development aspect of the SIP.

It is difficult at this time to establish a relationship between teaching and student learning in Namibia. Until quite recently, government policy did not support student assessment although, as an exception, Namibia did participate in the SAQMEC studies. In 2005, a pilot national assessment was conducted as part of BES3 and a national assessment system may be developed. Should this take place, it may be possible in future to establish the relationship between different forms of teacher learning and student achievement.

Quality, Process, and Local-level Empowerment

Namibia is decentralizing authority and accountability, previously held centrally, to the regions and schools. This follows common trends and responds to the realization that "change at this fundamental level rarely, if ever, occurs as a result of centrally driven, top down, decree- and regulation-driven change models" (Farrell 2002, p. 252). Local engagement is necessary for the quality of education to improve; the question is how to develop the mechanisms and the spirit of engagement.

Stakeholder enthusiasm for the SIP is clear in both SIP and non-SIP schools. As a program that promotes local-level empowerment through a whole-school process of planning, reflection, and assessment, within which teacher professional development is nested, it represents a promising model for promoting quality. An aspect of the SIP that should be closely examined in comparison with other programs is that it does not treat teacher development and community participation as two related but separate (and sometimes antagonistic) programs; they are integrated in a way that acknowledges the complexity and inter-relatedness of processes that create quality at the school level.

Concluding Remarks

The challenges to the implementation of learner-centered policies that emerged from this study may indicate the fact that highly complex and possibly contradictory policies, representing new visions of quality and new paradigms of education, teaching, and learning, are not easily understood and translated into effective practice, particularly in the context of rapid system expansion and resource constraint. The findings indicate the need for strengthening pre-service teacher education and, particularly, for establishing a comprehensive and continuing in-service professional development program. According to teachers and other stakeholders, school-level change is significantly supported by the whole-school process of planning, reflection, and assessment – and teacher professional development embedded within this process. The SIP appears to be a very promising vehicle for systemic change based on school-based process and local empowerment.

The challenges to policy makers and program planners suggested by this study are many. Four important areas that may help improve system-wide quality are the following: (i) clarify policies and ensure alignment of the various aspects of the system that guide teachers' work so that they are not working within a nexus of contradiction about policy and expected practice; (ii) within better aligned guidelines for policy and practice, develop consistent and comprehensive strategies for continuing teacher development that ensure support and the infusion of new knowledge throughout the system in combination with whole-school groups of stakeholders working on planning, reflection, and assessment of quality initiatives; and (iii) focus on the school level and local voices to understand what quality is and where it comes from; and (iv) incorporate the complexity of process in the development of policies and programs.

APPENDIX 1: STUDY METHODOLOGY

The research was carried out in cooperation with the Namibian National Institute for Educational Development (NIED), an institution of the Ministry of Education responsible for curriculum development, teacher pre-service and in-service programs, and research. The NIED Research Head, working closely with EQUIP1/AED, participated in the research design and oversaw the data collection. NIED and EQUIP1/AED jointly carried out the analysis and report drafting.

Sampling

In order to gather information to respond to the guiding questions, a qualitative study of a core group of 40 experienced, mainly grade 4 teachers in 20 schools was carried out in Oshana Region and Oshikoto Region of northern Namibia. The majority of schools in these regions are rural and similar to schools throughout the northern areas of the country. The populations of Oshana and Oshikoto are relatively homogeneous. Two national languages are widely spoken and understood and, in many rural areas, there is little exposure to English except in school. Schools in northern Namibia were chosen because this area holds approximately 75% of the country's population that was severely marginalized and impoverished as a result of the colonial government's apartheid policies. The north was also chosen because this has been the location of a series of USAID-funded projects to strengthen the quality of basic education.

The 20 schools in the sample are all grade 1-7 primary schools of comparable size. Each of the 20 schools was given a number, starting with 01 through 20. The schools numbered 01 through 10 were schools that have participated in the School Improvement Program and schools numbered 11 through 20 have participated in the more episodic and centralized professional development programs available through the regions and other donor programs. Each of the 40 core teachers was given a four-digit number starting with the number of his or her school followed by either 01 (always male) or 02 (always female). For example, teacher number 0101 comes from school number 01 and he is teacher number 01 in that school (teacher number 01 is always the male). Teacher number 0102 also comes from school number 01 and is teacher number 02 in that school (therefore the female teacher). Likewise, teacher number 1502 comes from school number 15 and is the second of the two core teachers interviewed in the school, therefore the female.

The sample is made up of two sub-groups of 10 schools each. Ten of the schools have participated for three to four years in ongoing school-based teacher professional development programs through the School Improvement Program (SIP) which is part of the USAID-funded Basic Education Support II (BESII) and Basic Education Support 3 (BES3) programs. The other ten schools in the sample have not participated in SIP, but have participated in the more episodic and centralized in-service programs which are carried out under the aegis of the regions and by various donor programs. The majority of schools in the sample are rural and only two schools in each of the two sub-sets could be regarded as urban or semi-urban. In the selection process, no effort was made to select "especially good" or "especially bad" SIP or non-SIP schools.

Two experienced teachers, a male and a female, were interviewed in each of the 20 schools. Thirty-nine of the 40 teachers were observed while teaching a class in English, mathematics or science (one of the teachers could not be observed because of unavoidable scheduling difficulties).

All 40 teachers in the sample had completed the Basic Education Teaching Diploma (BETD) program either through the three-year residential pre-service program, one of the four colleges of education, or through a distance in-service program which upgrades "unqualified" teachers to diploma status. In two cases where there was no BETD teacher in Grade 4 and the school qualified for the other criteria, a grade 3 teacher was selected for interviews and observations.

Through the use of open-ended interview questions, the 40 core teachers were asked to reflect in depth on their interpretations of education quality and talk about their perspectives on learning opportunities that had made the greatest impact on improving their practice. The core teachers were observed while teaching one lesson in English, mathematics or science in order to establish a sense of how teachers' perceptions of quality correspond to their practice. The role of the BETD teacher education diploma program was investigated in the study, although the main focus is on the influence of participation in in-service professional development programs.

In addition to the interviews with 40 core teachers and observations of 39 of the teachers, the principal from each school was interviewed in depth. Parents, both male and female, who were active in the school committee and selected by the principal, were interviewed in focus groups of about six in each of the 20 schools. Students or learners (Students in Namibia are referred to as "learners." Because this study is designed for a wider audience than Namibia alone, the study usually uses the term "student.") from each of the core teacher's classes were also interviewed in focus groups made up of approximately even numbers of male and female students.

The sample of schools and teachers was selected purposively with school and teacher characteristics held as constant as possible, making participation in the SIP program the major difference between the two sub-groups of schools and teachers. It should be emphasized, however, that the study is not meant to be an evaluation of the SIP program; this is not the purpose of the study and, in any case, the number of schools in the study is much too small to serve this purpose. The purpose of the study is to detect overall trends; the purpose of dividing the sample into SIP and non-SIP was to see if differences emerged that warrant further attention from researchers and policy makers.

Since the sample of schools and teachers is small, the results are not representative or statistically significant, as is the case in most qualitative studies. However, as the results reported below indicate, there is a high degree of internal consistency within overall data as well as in the data that compare SIP and non-SIP schools. This indicates that the results can be considered valid. The study, therefore, has the power to indicate significant trends in Namibia and, by extension, in countries with similar conditions and policies.

Data Collection

Interviews and classroom observations were conducted between April and July 2005 (the school year in Namibia runs from January to December). Single interviews with teachers and principals and group interviews with parents and students were conducted by two regional Advisory Teachers, a school principal, a literacy officer, and a college lecturer. These education professionals are all enrolled in a distance MA degree program at Rhodes University and have carried out qualitative research in the past. They were trained to interview, through simulated and role-played situations, using the pilot study interview protocols and learning to use probing questions to get in-depth information. Interviews in the study were conducted in Namibian languages; the data collectors were trained in the process of taking field notes and transcribing the

notes into English. Classroom observations were conducted by two senior education professionals, the NIED research head and an international consultant who has extensive experience in Namibian schools.

Data Analysis

This research falls within the interpretive paradigm in which the researchers, through intense study and cyclical re-study of the data, come to a deep understanding of the subject of enquiry leading to interpretation of meaning. Frequency and nuance of response are identified through this process. In order to increase the validity of the data and eventual findings, the constant comparative method was used in which the researchers' growing understanding of the subject is re-examined and re-stated in stages and through comparison with other data sources – resulting in a triangulation of the data. In this study, the main triangulating mechanism was the emerging evidence of internal consistency from interview data sources (teachers, principals, parents, and students) and from the observation data.

The data were recorded, organized, displayed, compared, and analyzed mechanically. A team at NIED and at AED participated in the data analysis. Two independent researchers from the Namibia Educational Research Association (NERA) conducted the initial analysis of the parent, learner, and principal data. All data analyzers looked for themes that emerged from high frequency responses and indicated that these responses were repeatedly mentioned by the stakeholders, although even single responses from stakeholders were captured in the summaries of the interviews. From these summaries, abstractions were made by the main researchers in order to come to a deeper understanding of the data, and these were refined to findings. As the findings were formulated, they were shared with the other data analyzers to make an attempt to increase the validity of the findings further. Regular bi-weekly meetings were held at NIED to discuss the process of analysis and the key themes emerging from the study; meetings were also held by the team at AED to conduct a parallel analysis, incorporating and augmenting the process taking place at NIED. The final report was drafted by the teams at NIED and AED working together.

Document Analysis and Literature Review

An analysis of relevant documents on the background of education, the evolution of education policies, and the programs available for teacher professional development in Namibia provides important context information for the pilot study, a short review of which is given in Chapter 2. A brief review of the international literature on quality of education and teacher learning in Chapter 4 situates the pilot study within a wider context of theory and practice.

APPENDIX 2: CLASSROOM OBSERVATIONS - SIP SCHOOLS

Grid:

Positive evidence of behaviour +
Negative evidence of behaviour −
Behaviour attempted with mixed success ±
Behaviour not appropriate/relevant/absent ∞

	Physical Classroom Environment	Affective atmosphere	Resource use	Learner involvement	Cooperative learning	HOTS	Elicitation and Effective questioning	Reinforcement and Feedback	Contextualising knowledge	Written work	Homework	+	±	−	∞
101-Ins	−	**+**	**+**	**+**	∞	**+**	**+**	**+**	**+**	−	∞	**7**	0	2	2
102-Ins	±	−	−	−	∞	−	−	−	−	−	∞	0	1	**8**	2
201-Ins	±	−	−	±	∞	±	−	−	−	±	±	0	5	5	1
202-Ins	±	−	±	±	∞	−	−	±	−	−	−	0	4	**6**	1
301-Pre	±	**+**	−	−	∞	−	−	−	−	−	∞	1	1	**7**	2
302-Pre	±	±	**+**	±	−	−	−	**+**	±	±	∞	2	5	3	1
401-Pre	±	±	**+**	**+**	−	−	±	±	**+**	−	∞	3	4	3	1
402-Ins	±	±	**+**	±	±	**+**	∞	**+**	**+**	±	∞	4	5	0	2
501-Ins	**+**	**+**	**+**	**+**	±	±	**+**	**+**	∞	−	∞	**6**	2	1	2
502-Pre	**+**	**+**	**+**	**+**	±	±	±	±	**+**	±	∞	5	5	0	1
601-Ins	**+**	**+**	**+**	±	∞	±	±	−	±	−	∞	3	4	2	2
602-Ins	±	**+**	±	±	∞	−	−	**+**	±	−	∞	2	4	3	2
701-Ins	−	±	−	−	−	±	∞	−	−	−	∞	0	2	**7**	2
702-Pre	±	**+**	∞	**+**	∞	±	±	**+**	∞	±	∞	3	4	0	4
801-Pre	**+**	**+**	**+**	**+**	**+**	±	∞	**+**	**+**	±	∞	7	2	0	2
901-Pre	**+**	**+**	**+**	**+**	±	**+**	**+**	**+**	**+**	±	∞	**8**	2	0	1
902-Ins	**+**	**+**	**+**	±	−	−	±	−	**+**	±	∞	4	3	3	1
1001-Ins	±	−	±	±	∞	−	−	±	∞	±	±	0	6	3	2
1002-Ins	−	±	**+**	±	∞	**+**	±	−	**+**	−	∞	3	3	3	2
+	6	**10**	**11**	7	1	4	3	8	8	0	0				
±	10	5	3	9	4	7	6	4	3	9	2				
−	3	4	4	3	4	8	7	7	5	**10**	1				
∞	0	0	1	0	**10**	0	3	0	3	0	**16**				

APPENDIX 3: CLASSROOM OBSERVATIONS - NON-SIP SCHOOLS

Grid:

Positive evidence of behaviour +
Negative evidence of behaviour −
Behaviour attempted with mixed success ±
Behaviour not appropriate/relevant/absent ∞

	Physical Classroom Environment	Affective atmosphere	Resource use	Learner involvement	Cooperative learning	HOTS	Elicitation and Questioning	Reinforcement and Feedback	Contextualising knowledge	Written work	Homework	+	±	−	∞
1101-Ins	±	±	±	±	∞	±	±	−	±	±	∞	0	8	1	2
1102-Ins	−	−	±	±	∞	±	±	−	±	−	∞	0	5	4	2
1201-Ins	**+**	**+**	**+**	**+**	**+**	**+**	**+**	**+**	**+**	−	±	**9**	1	1	0
1202-Ins	**+**	±	**+**	±	∞	±	±	±	±	−	∞	2	6	1	2
1301-Pre	**+**	**+**	**+**	**+**	∞	−	±	**+**	±	−	∞	5	2	2	2
1302-Pre	±	−	−	±	−	**+**	∞	±	−	±	∞	1	4	4	2
1401-Pre	**+**	**+**	**+**	**+**	**+**	**+**	**+**	**+**	**+**	±	∞	**9**	1	0	1
1402-Ins	−	±	**+**	±	∞	±	−	±	**+**	−	±	2	5	3	1
1501-Ins	±	**+**	**+**	**+**	∞	±	±	±	**+**	−	∞	4	4	1	2
1502-Pre	**+**	**+**	**+**	**+**	**+**	±	±	**+**	**+**	**+**	∞	**8**	2	0	1
1601-Ins	**+**	±	**+**	±	±	−	−	±	−	−	∞	2	4	4	1
1602-Ins	±	−	±	−	−	±	−	±	−	−	∞	0	4	6	1
1701-Ins	−	**+**	±	**+**	∞	−	−	±	**+**	−	∞	3	2	4	2
1702-Pre	±	−	**+**	±	∞	±	−	−	±	−	∞	1	4	4	2
1801-Pre	±	**+**	**+**	±	±	−	±	±	−	−	∞	2	5	3	1
1802-Pre	−	**+**	±	−	∞	−	−	−	−	−	∞	1	1	**7**	2
1901-Pre	**+**	**+**	±	±	∞	−	−	±	∞	−	∞	2	3	3	3
1902-Ins	**+**	**+**	±	±	−	**+**	±	±	±	−	∞	3	5	2	1
2001-Ins	±	−	−	−	∞	±	−	−	±	±	**+**	1	4	5	1
2002-Ins	∞	**+**	−	−	∞	±	−	−	∞	−	−	1	1	6	3
+	8	**11**	**10**	6	3	4	2	4	6	1	0				
±	7	4	7	10	2	10	8	10	7	4	4				
−	4	5	3	4	3	6	9	6	5	**15**	**16**				
∞	1	0	0	0	**12**	0	1	0	2	0	0				

APPENDIX 4: CLASSROOM OBSERVATIONS – BETD PRE-SERVICE TEACHERS

Grid:

Positive evidence of behaviour +
Negative evidence of behaviour −
Behaviour attempted with mixed success ±
Behaviour not appropriate/relevant/absent ∞

	Physical Classroom Environment	Affective atmosphere	Resource use	Learner involvement	Cooperative learning	HOTS	Elicitation and Effective questioning	Reinforcement and Feedback	Contextualising knowledge	Written work	Homework	+	±	−	∞
301-Pre	±	**+**	−	−	∞	−	−	−	−	−	∞	1	1	**7**	2
302-Pre	±	±	**+**	±	−	−	−	**+**	±	±	∞	2	**5**	3	1
401-Pre	±	±	**+**	**+**	−	−	±	±	**+**	−	∞	3	4	3	1
502-Pre	**+**	**+**	**+**	**+**	±	±	±	±	**+**	±	∞	**5**	**5**	0	1
702-Pre	±	**+**	∞	**+**	∞	±	±	**+**	∞	±	∞	3	4	0	4
801-Pre	**+**	**+**	**+**	**+**	**+**	±	∞	**+**	**+**	±	∞	**7**	2	0	2
901-Pre	**+**	**+**	**+**	**+**	±	**+**	**+**	**+**	**+**	±	∞	**8**	2	0	1
1301-Pre	**+**	**+**	**+**	**+**	∞	−	±	**+**	±	−	∞	5	2	2	2
1302-Pre	±	−	−	±	−	**+**	∞	±	−	±	∞	1	4	4	2
1401-Pre	**+**	**+**	**+**	**+**	**+**	**+**	**+**	**+**	**+**	±	∞	**9**	1	0	1
1502-Pre	**+**	**+**	**+**	**+**	**+**	±	±	**+**	**+**	**+**	∞	**8**	2	0	1
1702-Pre	±	−	**+**	±	∞	±	−	−	±	−	∞	1	4	4	2
1801-Pre	±	**+**	**+**	±	±	−	±	±	−	−	∞	2	**5**	3	1
1802-Pre	−	**+**	±	−	∞	−	−	−	−	−	∞	1	1	**7**	2
1901-Pre	**+**	**+**	±	±	∞	−	−	±	∞	−	∞	2	3	3	3
+	7	11	10	8	3	3	2	7	6	1	0				
±	7	2	2	5	3	5	6	5	3	7	0				
−	1	2	2	2	3	7	5	3	4	7	0				
∞	0	0	1	0	6	0	2	0	2	0	15				

APPENDIX 5: CLASSROOM OBSERVATIONS – BETD IN-SERVICE TEACHERS

Grid:

Positive evidence of behaviour +
Negative evidence of behaviour −
Behaviour attempted with mixed success ±
Behaviour not appropriate/relevant/absent ∞

	Physical Classroom Environment	Affective atmosphere	Resource use	Learner involvement	Cooperative learning	HOTS	Elicitation and Effective questioning	Reinforcement and Feedback	Contextualising knowledge	Written work	Homework	+	±	−	∞
101-Ins	−	**+**	**+**	**+**	∞	**+**	**+**	**+**	**+**	−	∞	**7**	0	2	2
102-Ins	±	−	−	−	∞	−	−	−	−	−	∞	0	1	**8**	2
201-Ins	±	−	−	±	∞	±	−	−	−	±	±	0	**5**	5	1
202-Ins	±	−	±	±	∞	−	−	±	−	−	−	0	4	**6**	1
402-Ins	±	±	**+**	±	±	**+**	∞	**+**	**+**	±	∞	4	**5**	0	2
501-Ins	**+**	**+**	**+**	**+**	±	±	**+**	**+**	∞	−	∞	**6**	2	1	2
601-Ins	**+**	**+**	**+**	±	∞	±	±	−	±	−	∞	3	4	2	2
602-Ins	±	**+**	±	±	∞	−	−	**+**	±	−	∞	2	4	3	2
701-Ins	−	±	−	−	−	±	∞	−	−	−	∞	0	2	**7**	2
902-Ins	**+**	**+**	**+**	±	−	−	±	−	**+**	±	∞	4	3	3	1
1001-Ins	±	−	±	±	∞	−	−	±	∞	±	±	0	**6**	3	2
1002-Ins	−	±	**+**	±	∞	**+**	±	−	**+**	−	∞	3	3	3	2
1101-Ins	±	±	±	±	∞	±	±	−	±	±	∞	0	**8**	1	2
1102-Ins	−	−	±	±	∞	±	±	−	±	−	∞	0	5	4	2
1201-Ins	**+**	**+**	**+**	**+**	**+**	**+**	**+**	**+**	**+**	−	±	**9**	1	1	0
1202-Ins	**+**	±	**+**	±	∞	±	±	±	±	−	∞	2	**6**	1	2
1402-Ins	−	±	**+**	±	∞	±	−	±	**+**	−	±	2	5	3	1
1501-Ins	±	**+**	**+**	**+**	∞	±	±	±	**+**	−	∞	4	4	1	2
1601-Ins	**+**	±	**+**	±	±	−	−	±	−	−	∞	2	4	4	1
1602-Ins	±	−	±	−	−	±	−	±	−	−	∞	0	4	6	1
1701-Ins	−	**+**	±	**+**	∞	−	−	±	**+**	−	∞	3	2	4	2
1902-Ins	**+**	**+**	±	±	−	**+**	±	±	±	−	∞	3	**5**	2	1
2001-Ins	±	−	−	−	∞	±	−	−	±	±	**+**	1	4	5	1
2002-Ins	∞	**+**	−	−	∞	±	−	−	∞	−	−	1	1	6	3

APPENDIX 6: CLASSROOM OBSERVATION CRITERIA AND FINDINGS

Physical Classroom Environment

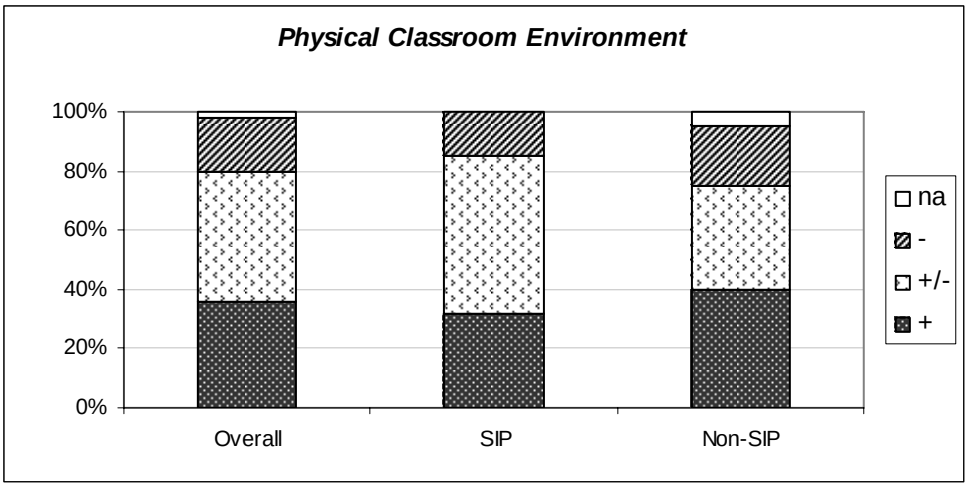
- **Item observed:** The use of physical space in the classroom, cleanliness, organization, and the display of materials around the room
- **Observation criteria:**
  + Classroom is well-organized and visually rich and appealing. Displays include current, meaningful student work (not just un-labeled drawings) in addition to teacher-made or manufactured materials. The room is generally clean and tidy.
  +/- Classroom is well-organized. Displays are neat, current, and meaningful but may not include student work. The room is generally clean and tidy.
  - Classroom is lacking one or more of the main criteria. This may be the absence of displays or dated or torn displays, desk arrangements that limit movement (when this can be overcome), or lack of cleanliness that could easily be taken care of.
- **Data from observations:**

Rating	Overall		SIP		Non-SIP	
+	14 out of 39	36%	6 out of 19	32%	8 out of 20	40%
+/-	17 out of 39	44%	10 out of 19	53%	7 out of 20	35%
-	7 out of 39	18%	3 out of 19	15%	4 out of 20	20%
na	1 out of 39	2%	0 out of 19	0%	1 out of 20	5%

Overall: While 36% of the 39 core teachers used physical space in the classroom, according to the above criteria, in a positive manner (+ criteria above), an additional 44% created an acceptable or mixed physical environment (+/- criteria above). Therefore a combined 80% of the 39 core teachers had either a positive or acceptable/mixed physical classroom environment. However, 18% of the teachers were thought to have a negative classroom environment (– criteria above).

SIP: While 32% of SIP teachers had a positive physical classroom environment, an additional 53% had an either acceptable or mixed classroom physical environment. Therefore, a combined 85% of the SIP teachers had either positive or acceptable/mixed physical classroom environment. However 15% of the teachers had a negative classroom environment.

Non-SIP: While 40% of the non-SIP teachers had a positive classroom environment, an additional 35% had an acceptable or mixed classroom physical environment. Therefore, a combined 75% of the non-SIP teachers had either a positive or acceptable/mixed physical classroom environment. However, 20% of the teachers had a negative classroom environment.



Affective Atmosphere

- **Item observed:** The social interaction between teachers and students
- **Observation criteria:**

  \+ Teacher builds a positive classroom environment: trusting, caring, friendly, and encouraging to all students. The teacher seems to know the students including their names and interests. The teacher and students smile and show enthusiasm.

  +/- Relationships between learners and the teacher are neither positive or negative—this may be because teacher-talk dominates the classroom or it may be that the teacher is firm (but not threatening) and the students seem to feel comfortable.

  \- Teacher is critical of students, yells, hits or threatens to hit. Laughing at students is tolerated without comment. Teacher does not know students' names.
- **Data from observations:**

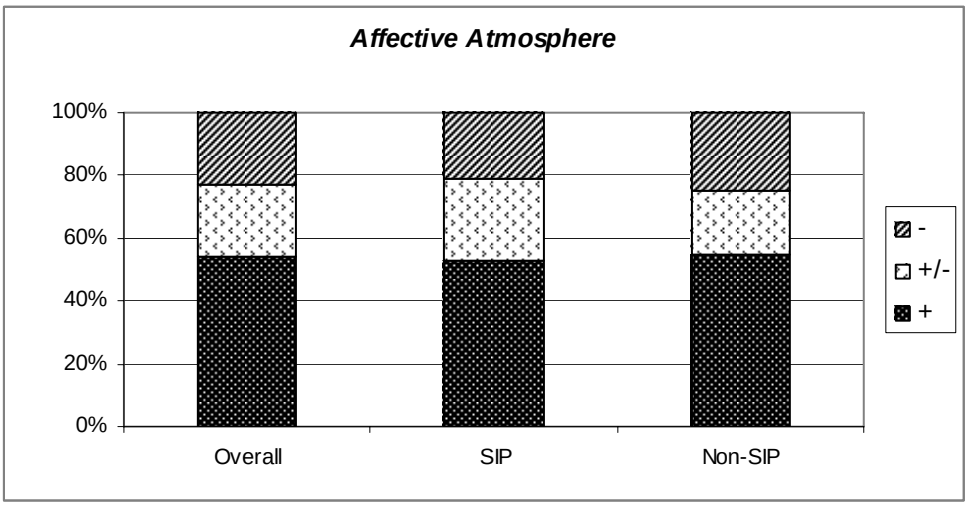
Rating	Overall		SIP		Non-SIP	
+	21 out of 39	54%	10 out of 19	53%	11 out of 20	55%
+/-	9 out of 39	23%	5 out of 19	26%	4 out of 20	20%
-	9 out of 39	23%	4 out of 19	21%	5 out of 20	25%
na	0 out of 39	0%	0 out of 19	0%	0 out of 20	0%

Overall: While 54% of the 39 core teachers were thought to have positive social interactions with their students in the lesson observed (+ criteria above), an additional 23% created acceptable/mixed social interactions (+/- criteria above). Therefore, a combined 77% of the 39 core teachers had either a positive or acceptable/mixed affective atmosphere in their classrooms. However, 23% of the teachers were thought to have a negative affective atmosphere (– criteria above) in the lesson observed.

SIP: While 53% of SIP teachers had positive social interactions with their students in the lesson observed, an additional 26% created acceptable/mixed social interactions. Therefore, a combined 79% of SIP teachers had either positive or acceptable/mixed affective atmosphere in their classrooms. However, 21% of the SIP teachers were judged to have a negative affective atmosphere in the lesson observed.

Non-SIP: While 50% of non-SIP teachers had positive social interactions with their students in the lesson observed, an additional 35% had acceptable/mixed social interactions. Therefore, a combined 85% of non-SIP teachers had either positive or

acceptable/mixed affective atmosphere in their classrooms. However, 15% of the teachers were judged to have a negative affective atmosphere in the lesson observed.



Resource Use

- **Item observed:** The use of materials and resources to support the lesson
- **Observation criteria:**
  - \+ Resources beyond chalkboard/ text book used generally effectively.
  - +/- Chalkboard and text books are used well. There may be ineffective use of other resources.
  - \- No evidence of resources used or poor use of text book/chalkboards.
- **Data from observations:**

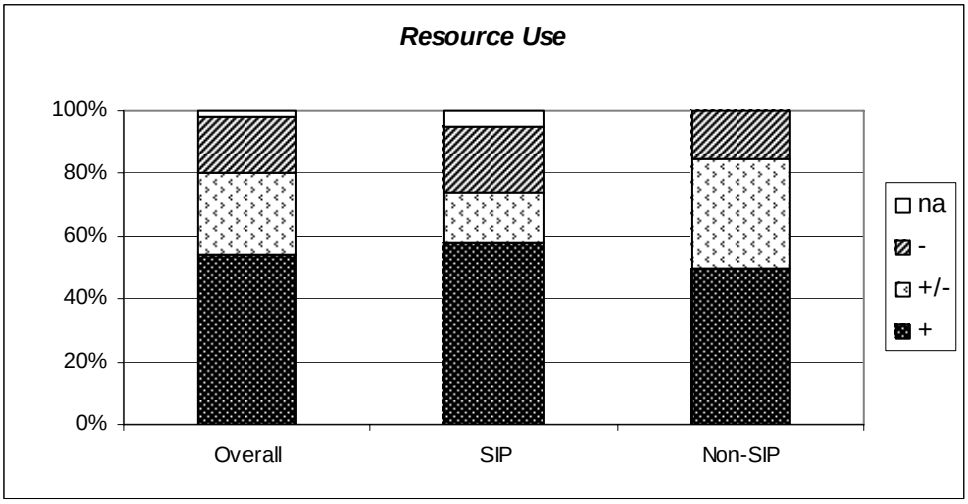
Rating	Overall		SIP		Non-SIP	
+	21 out of 39	54%	11 out of 19	58%	10 out of 20	50%
+/-	10 out of 39	26%	3 out of 19	16%	7 out of 20	35%
-	7 out of 39	18%	4 out of 19	21%	3 out of 20	15%
na	1 out of 39	2%	1 out of 19	5%	0 out of 20	0%

Overall: While 54% of the 39 core teachers were thought to use materials and resources to support their lessons in a positive manner in the lesson observed (+ criteria above), an additional 26% used materials and resources in an acceptable/mixed way (+/- criteria above). Therefore, a combined 80% of the 39 core teachers used resources in either a positive or acceptable/mixed manner. However, 18% of the teachers were thought to use few resources or use resources poorly (– criteria above) in the lesson observed.

SIP: While 58% of the SIP teachers used materials and resources to support their lessons in a positive manner in the lesson observed, an additional 16% used materials and resources in an acceptable/mixed way. Therefore, a combined 74% of the SIP teachers used resources in either a positive or acceptable/mixed manner. However, 21% of the teachers were thought to use resources poorly in the lesson observed.

Non-SIP: While 50% of the non-SIP teachers used material and resources to support their lessons in a positive manner, an additional 35% used materials and resources in an acceptable/mixed way. Therefore, a combined 85% of non-SIP teachers used resources in either a positive or

acceptable/mixed manner. However, 15% of teachers were thought to use resources poorly in the lesson observed.



Learner Involvement

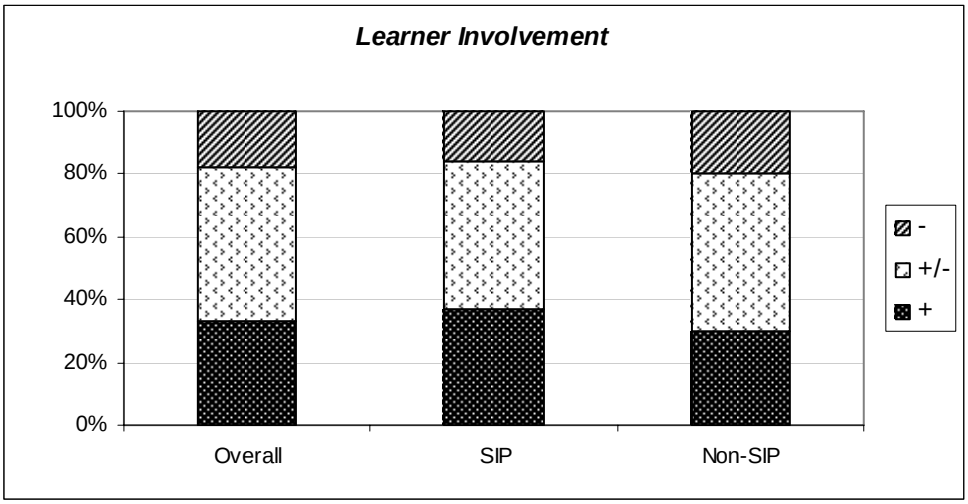
- **Item observed:** The teacher's ability to manage the class and involve students in the lesson
- **Observation criteria:**
  + Majority of students are engaged in the lesson for all or most of the period. Students are actively involved in some way, either in answering questions, doing assignments, or participating in cooperative learning activities.
  +/- Students are attentive and listening, but may not be actively engaged, or students are involved positively for most of the lesson, but a few students are off-task at the end.
  - Learners spend significant time off task (behavior, lack of teacher preparation or lack of meaningful work to do.) Students seem bored/ unengaged for a large part of the lesson.
- **Data from observations:**

Rating	Overall		SIP		Non-SIP	
+	13 out of 39	33%	7 out of 19	37%	6 out of 20	30%
+/-	19 out of 39	49%	9 out of 19	47%	10 out of 20	50%
-	7 out of 39	18%	3 out of 19	16%	4 out of 20	20%
na	0 out of 39	0%	0 out of 19	0%	0 out of 20	0%

Overall: While 33% of the 39 core teachers were thought to have positive learner involvement in the lesson observed (+ criteria above), an additional 49% had either acceptable or mixed learner involvement (+/- criteria above). Therefore, a combined 82% of the 39 core teachers observed had either positive or acceptable/mixed learner involvement. However, 18% of teachers were thought to involve learners poorly in the lesson observed (- criteria above).

SIP: While 37% of the SIP teachers were thought to have positive learner involvement in the lesson observed, an additional 47% had either acceptable or mixed learner involvement. Therefore, a combined 84% of the SIP teachers had either positive or acceptable/mixed learner involvement. However, 16% of the teachers involved learners poorly in the lesson observed.

Non-SIP: While 30% of the non-SIP teachers had positive learner involvement in the lesson observed, an additional 50% had acceptable or mixed learner involvement. Therefore, a combined 80% of the non-SIP teachers had either positive or acceptable/mixed learner involvement. However, 20% of the teachers involved learners poorly in the lesson observed.



Cooperative Learning (Pair and Group Work)

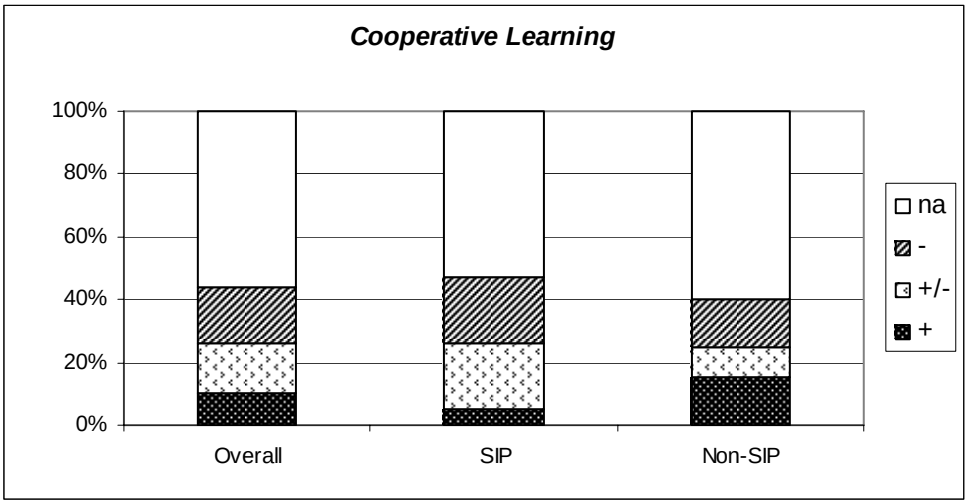
- **Item observed:** Students working with students in pairs or small groups in order to make meaning of the lesson
- **Observation criteria:**
  + Activity supports learning. Learners need to talk with one another and problem solve together. All learners involved.
  +/- Meaningful activity in which all learners may not be involved throughout.
  - Activity with only one right answer based on a recall question. Group size or materials make it impossible for all students to participate.
- **Data from observations:**

Rating	Overall		SIP		Non-SIP	
+	4 out of 39	10%	1 out of 19	5%	3 out of 20	15%
+/-	6 out of 39	16%	4 out of 19	21%	2 out of 20	10%
-	7 out of 39	18%	4 out of 19	21%	3 out of 20	15%
na	22 out of 39	56%	10 out of 19	53%	12 out of 20	60%

Overall: While only 10% of the 39 core teachers were thought to use cooperative learning positively in the lesson observed (+ criteria above), an additional 16% used cooperative learning in an acceptable or mixed manner (+/- criteria above). Therefore, 26% of the 39 core teachers used cooperative learning in a positive or acceptable/mixed manner. However, 18% used cooperative learning poorly in the lesson observed and a full 22% did not use any elements of cooperative learning when observed

SIP: While only 5% of SIP teachers used cooperative learning positively in the lesson observed, an additional 21% used it in an acceptable or mixed manner. Therefore, 26% of the SIP teachers used cooperative learning in a positive or acceptable/mixed manner. However, 21% used cooperative learning poorly in the lesson observed and a full 53% did not use it at all.

Non-SIP: While only 15% of non-SIP teachers used cooperative learning positively in the lesson observed, an additional 21% used it in an acceptable or mixed manner. Therefore, 25% of non-SIP teachers used cooperative learning in a positive or acceptable/mixed manner. However, 15% used it poorly and a full 60% did not use cooperative learning at all in the lesson observed.



Higher-order Thinking Skills

- **Item observed:** The teacher's ability to design activities/ask questions that access higher-order thinking skills (this does not imply that the learners are always able to complete the activities or answer the questions successfully)
- **Observation criteria:**
  + Teacher designs activities or asks questions that require higher-order thinking skills including application, analysis, synthesis or evaluation.
  +/- Teacher designs activities or asks at least a few questions that require higher-order thinking skills such as comprehension or those listed above.
  - Activities and questions are based on recall and other lower-order thinking skills.
- **Data from observations:**

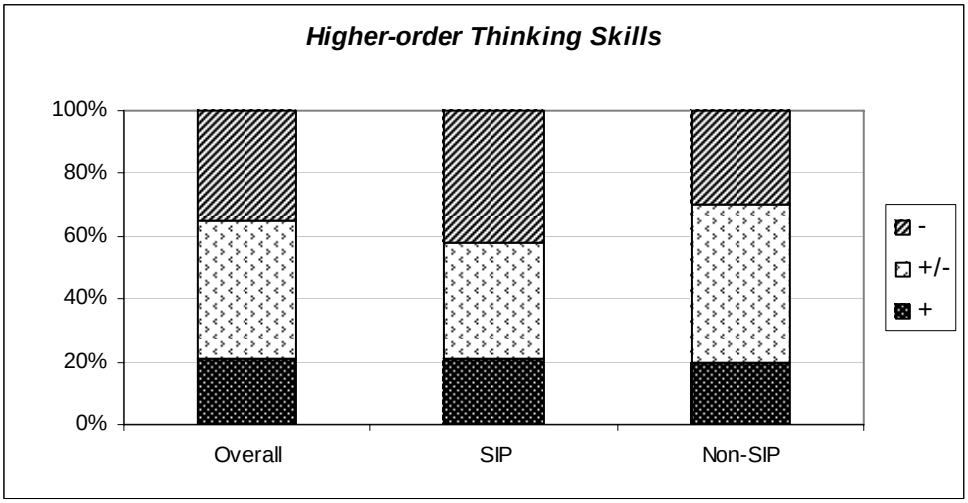
Rating	Overall		SIP		Non-SIP	
+	8 out of 39	21%	4 out of 19	21%	4 out of 20	20%
+/-	17 out of 39	44%	7 out of 19	37%	10 out of 20	50%
-	14 out of 39	35%	8 out of 19	42%	6 out of 20	30%
na	0 out of 39	0%	0 out of 19	0%	0 out of 20	0%

Overall: While 21% of the 39 core teachers were thought to use higher-order thinking skills positively (+ criteria above) in the lesson observed, an additional 44% used them in an acceptable/mixed manner (+/- criteria above). Therefore, 65% of the 39 core teachers used higher-order thinking skills either positively or in an acceptable/mixed manner. However, 35% of the teachers used recall and other lower-order thinking skills in the lesson observed, with little or no use of higher-order thinking skills (- criteria above).

SIP: While 21% of the SIP teachers used higher-order thinking skills positively in the lesson observed, an additional 37% used them in an acceptable/mixed manner. Therefore, 58% of the SIP teachers used higher-order thinking skills either positively or in an acceptable/mixed manner.

However, 42% of the teachers in the lesson observed depended on recall and memorization rather than higher-order thinking skills.

Non-SIP: While 20% of the non-SIP teachers used higher-order thinking skills positively in the lesson observed, an additional 50% used them in an acceptable or mixed manner. Therefore, 70% of the non-SIP teachers used higher-order thinking skills either positively or in an acceptable/mixed manner. However, 30% of the teachers in the lesson observed depended on recall and memorization rather than higher-order thinking skills.



Elicitation and Questioning

- **Item observed:** The teacher's skill in eliciting information, asking questions, and following up questions to support learning (closely related to the use of higher-order thinking skills)
- **Observation criteria:**

  \+ Teacher asks a variety of questions, especially open-ended questions. Questions may be higher-order. Multiple answers are often appropriate and accepted. Teacher asks follow-up questions to support content. Teacher is able to rephrase questions when learners are not able to answer.

  +/- Teacher may ask one or two effective questions but tends to rely on more simplistic questions. Teacher attempts to engage learners and rephrase questions, even though this may no always be effective.

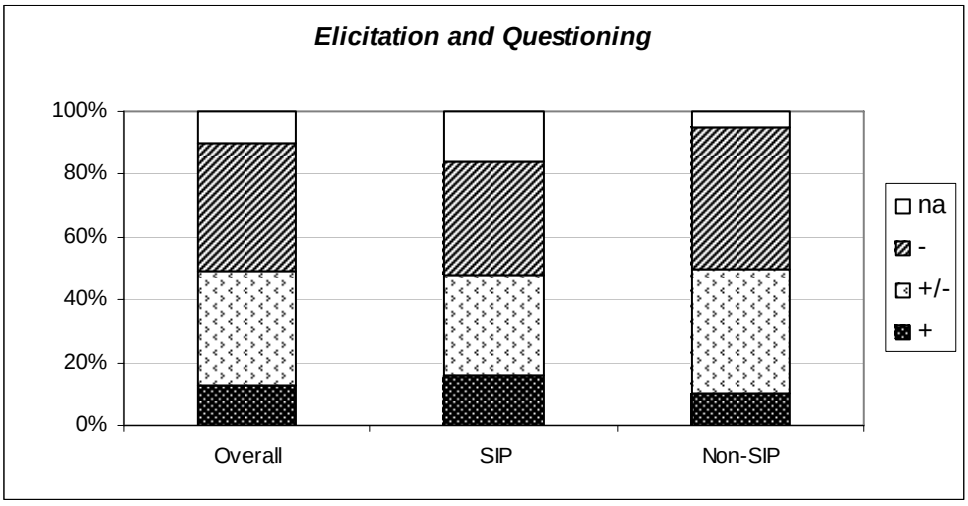
  \- Teacher only asks closed questions. Learners give one word answers. No follow up questions are asked. Teacher has students guess when they are not able to answer a question rather than supporting attempts with meaningful questions, examples, or elicitation skills.
- **Data from observations:**

Rating	Overall		SIP		Non-SIP	
+	5 out of 39	13%	3 out of 19	16%	2 out of 20	10%
+/-	14 out of 39	36%	6 out of 19	32%	8 out of 20	40%
-	16 out of 39	41%	7 out of 19	36%	9 out of 20	45%
na	4 out of 39	10%	3 out of 19	16%	1 out of 20	5%

Overall: While only 13% of the 39 core teachers were thought to use elicitation and questioning in a positive manner (+ criteria above) in the lesson observed, an additional 36% used these strategies in an acceptable or mixed manner (+/- criteria above). Therefore, a combined 49% of the 39 core teachers used elicitation and questioning in either a positive or acceptable/mixed manner. However, 41% of the teachers used these strategies poorly in the lesson observed (- criteria above), and 10% did not use elicitation and questioning at all.

SIP: While only 16% of the SIP teachers used elicitation and questioning in a positive manner in the lesson observed, an additional 32% used these strategies in an acceptable or mixed manner. Therefore, a combined 48% of the SIP teachers used elicitation and questioning in either a positive or acceptable/mixed manner. However, 36% of the teachers used these strategies poorly and 16% did not use elicitation and questioning at all in the lesson observed.

Non-SIP: While only 10% of the non-SIP teachers used elicitation and questioning in a positive manner in the lesson observed, an additional 40% used these strategies in an acceptable or mixed manner. Therefore, a combined 50% of the non-SIP teachers used elicitation and questioning either in a positive or acceptable/mixed manner. However, a full 45% of the non-SIP teachers used these strategies poorly and 5% did not use them at all in the lesson observed.



Reinforcement and Feedback

- **Item observed:** The teacher uses multiple examples or practice work to reinforce the concept being taught and provides students with feedback on their answers
- **Observation criteria:**

  \+ Teacher gives a variety of meaningful examples and assignment(s) to reinforce concept. The teacher monitors the learners' understanding of the concept and gives concrete, timely feedback.

  +/- Teacher gives limited examples/ assignments to reinforce the concept. Assignments may be on topic, but not particularly meaningful. Teacher monitors learners but may give little or no concrete feedback to individual students (e.g. teacher just calls on the next learner).

  \- There is no assignment given and few questions asked or the assignment does not reinforce the concept taught in the lesson. The teacher does not check for understanding through meaningful questions or monitoring of work. Teacher may ask question like, "Do you understand?"

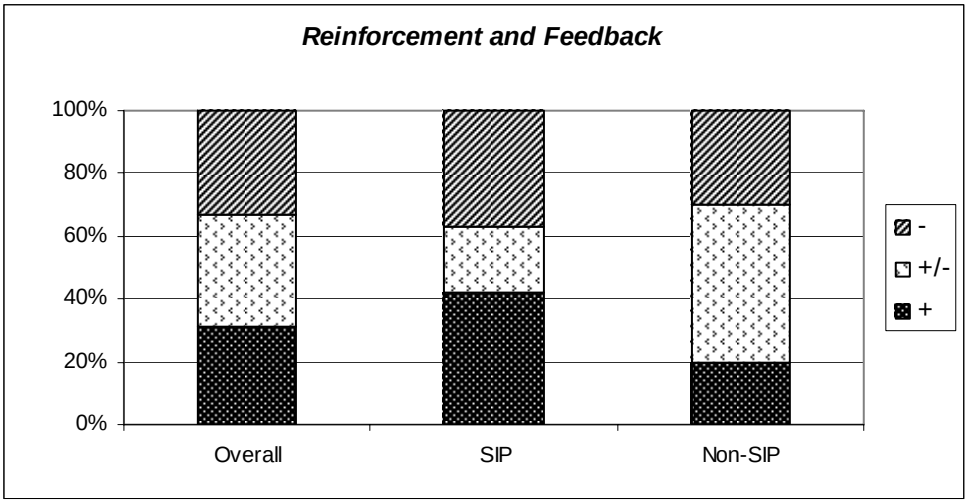
- **Data from observations:**

Rating	Overall		SIP		Non-SIP	
+	12 out of 39	31%	8 out of 19	42%	4 out of 20	20%
+/-	14 out of 39	36%	4 out of 19	21%	10 out of 20	50%
-	13 out of 39	33%	7 out of 19	37%	6 out of 20	30%
na	0 out of 39	0%	0 out of 19	0%	0 out of 20	0%

Overall: While 31% of the 39 core teachers were thought to use elicitation and questioning strategies positively in the lesson observed (+ criteria above), an additional 36% used these strategies in an acceptable or mixed manner (+/- criteria above). Therefore, a combined 67% of the 39 core teachers used elicitation and questioning strategies either positively or in an acceptable/mixed manner. However, 33% of the teachers used these strategies poorly in the lesson observed (- criteria above).

SIP: While 42% of the SIP teachers used elicitation and questioning positively in the lesson observed, an additional 21% used the strategies in an acceptable or mixed manner. Therefore, a combined 63% of the SIP teachers used elicitation and questioning in either a positive or acceptable/mixed manner. However, 37% of the teachers used the strategies poorly in the lesson observed.

Non-SIP: While 20% of the non-SIP teachers used elicitation and questioning positively in the lesson observed, an additional 50% used the strategies in an acceptable or mixed manner. Therefore, a combined 70% of the non-SIP teachers used elicitation and questioning in either a positive or acceptable/mixed manner. However, 30% of the non-SIP teachers used these strategies poorly in the lesson observed.



Contextualizing Knowledge

- **Item observed:** The teacher's ability to make lesson relevant through accessing prior knowledge or connecting material to the real world
- **Observation criteria:**
  + Teacher meaningfully/ consistently connects lesson to prior learning or the learners' lives or the teacher meaningfully connects the content to the real world.

+/- Teacher connects lesson to students' prior knowledge (perhaps as the hook) but does not extend/ continue to use this connection. Assignment is not contextualized to real world situations.

- Teacher links lesson to prior knowledge or real world situations that are not relevant for this lesson.

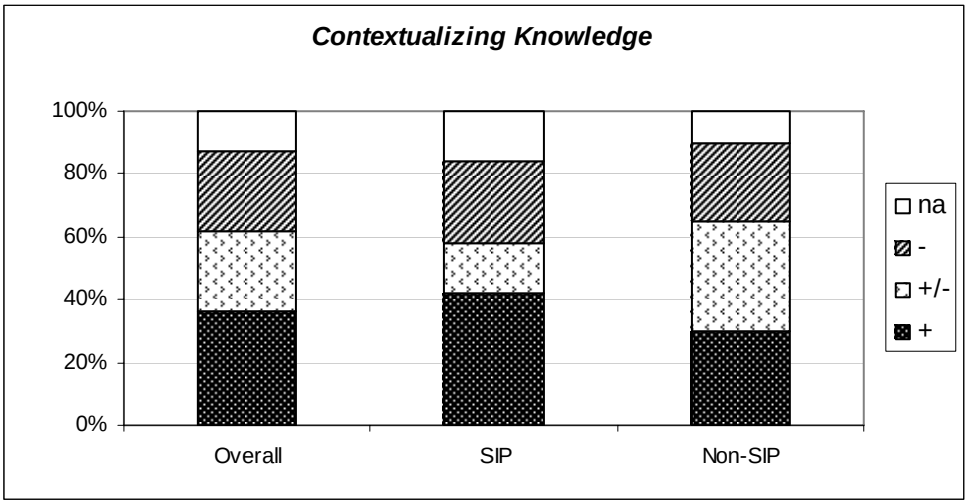
- **Data from observations:**

Rating	Overall		SIP		Non-SIP	
+	14 out of 39	36%	8 out of 19	42%	6 out of 20	30%
+/-	10 out of 39	26%	3 out of 19	16%	7 out of 20	35%
-	10 out of 39	25%	5 out of 19	26%	5 out of 20	25%
na	5 out of 39	13%	3 out of 19	16%	2 out of 20	10%

Overall: While 36% of the 39 core teachers contextualized knowledge positively in the lesson observed (+ criteria above), an additional 26% used this strategy in an acceptable or mixed manner (+/- criteria above). Therefore, a combined 62% of the 39 core teachers contextualized knowledge positively during the lesson observed. However, 25% of the teachers used this strategy poorly or inaccurately (- criteria above) and 13% did not use it at all in the lesson observed.

SIP: While 42% of the SIP teachers contextualized knowledge positively in the lesson learned, an additional 16% used this strategy in an acceptable or mixed manner. Therefore a combined 58% of the SIP teachers used the strategy either in a positive or acceptable/mixed manner during the lesson observed. However, 26% of the SIP teachers contextualized knowledge poorly (inaccurately) and 16% did not use contextualized knowledge at all in the lesson observed.

Non-SIP: While 30% of the non-SIP teachers contextualized knowledge positively in the lesson learned, an additional 35% used this strategy in an acceptable or mixed manner. Therefore, a combined 65% of the non-SIP teachers used this approach in a positive or acceptable/mixed manner during the lesson observed. However, 25% of the teachers used this approached poorly (inaccurately) and 10% did not contextualize knowledge in the lesson observed at all.



Written Work

- **Item observed:** Work produced by the learners both in this lesson and in the past (this does not take into account the teacher's markings or the learners' corrections)

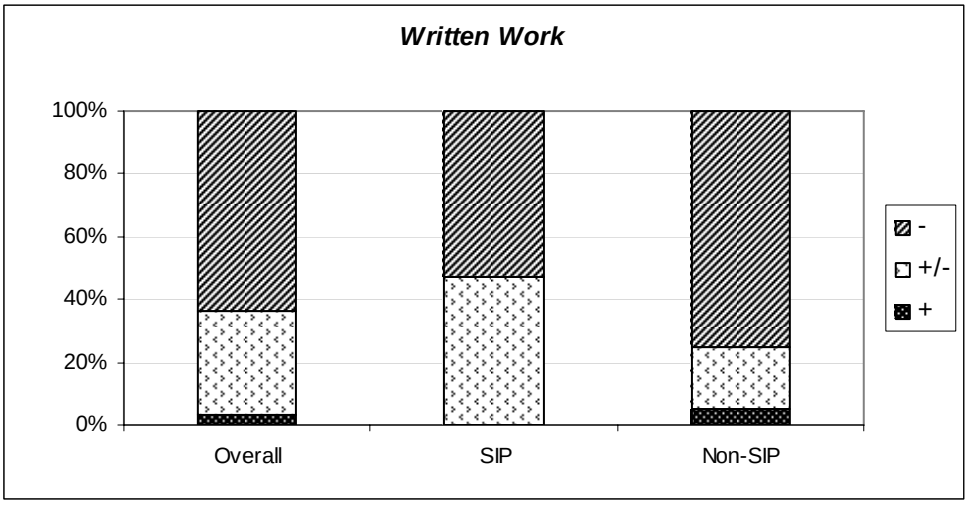
- **Observation criteria:**
  + Teacher includes multiple examples of free writing of some sort (multiple sentences).
  +/- Teacher includes at least a few original sentences.
  - Teacher includes only fill in the blank, single word, copying, etc.
- **Data from observations:**

Rating	Overall		SIP		Non-SIP	
+	1 out of 39	3%	0 out of 19	0%	1 out of 20	5%
+/-	13 out of 39	33%	9 out of 19	47%	4 out of 20	20%
-	25 out of 39	64%	10 out of 19	53%	15 out of 20	75%
na	0 out of 39	0%	0 out of 19	0%	0 out of 20	0%

Overall: While only 3% of the 39 core teachers appeared to use written work positively in the lesson observed and from evidence of past work (+ criteria above), an additional 33% used written work in an acceptable/mixed manner. Therefore, 36% of the 39 core teachers used written work in either a positive or acceptable/mixed manner. However, a full 64% of the 39 core teachers were thought to use written work poorly (- criteria above).

SIP: While none of the SIP teachers appeared to use written work positively, 47% of them used it in an acceptable or mixed manner. Therefore, 47% of the SIP teachers appeared to use written work in an appropriate/mixed manner. However, 53% of the SIP teachers appeared to use written work poorly.

Non-SIP: While only 5% (just one teacher) of the non-SIP teachers were thought to use written work positively, an additional 20% used written work in an appropriate or mixed manner. Therefore, 25% of the non-SIP teachers appeared to use written work in either a positive or, mainly, appropriate/mixed manner. However, a full 75% of the non-SIP teachers appeared to use written work poorly.



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